PL 1059

License Status Report

Contents

1. Introduction

1.1 PL1059 Summary

PL1059 is located south of the Sklinna Ridge on the Halten Terrace, in the Norwegian Sea (Figure 1), approximately 40 km north west of the ongoing Fenja development, 40 km west of the Njord Field and 25 km south west of the Linnorm discovery. The license area includes parts of blocks 6406/11 and 12.

The license was awarded to A/S Norske Shell (Operator 60%) and ONE-Dyas (40%) on 15.02.2020 with the initial 1-year phase ending on 15.02.2021 with a drill or drop decision.

At the time of APA19 application, the lowermost Upper Cretaceous prospect (Uluwatu) was identified. A potential gas discovery could be developed as a 40km tie-back to future Shell-operated infrastructure at the Linnorm discovery. The license was awarded over all stratigraphic levels.

1.2 Status of Work Commitment

The initial 1-year firm work programme consisted of targeted G&G studies (See section 3.1). All work commitments have been fulfilled.

1.3 Licence Meetings

The following PL1059 Management and Exploration committee meetings have been held:

- 2020, March 5th, EC/MC Committee meeting #1
- 2020, November 11th, EC/MC Committee meeting #2

1.4 Explanation of Grounds for Lapse

G&G studies led to a significant update in the Cenomanian Lange Fm. reservoir model and subsequently downgraded reservoir properties for the anchor prospect, Uluwatu. The final volumes are insufficient to recommend this as a drilling candidate as risks on recovery and retention are evaluated to be high. All additional play intervals within the license have been assessed and no subsequent prospects were identified. Based on the lack of material opportunities in PL1059, the partnership does not see any attractive drilling candidates and have decided to relinquish the license.

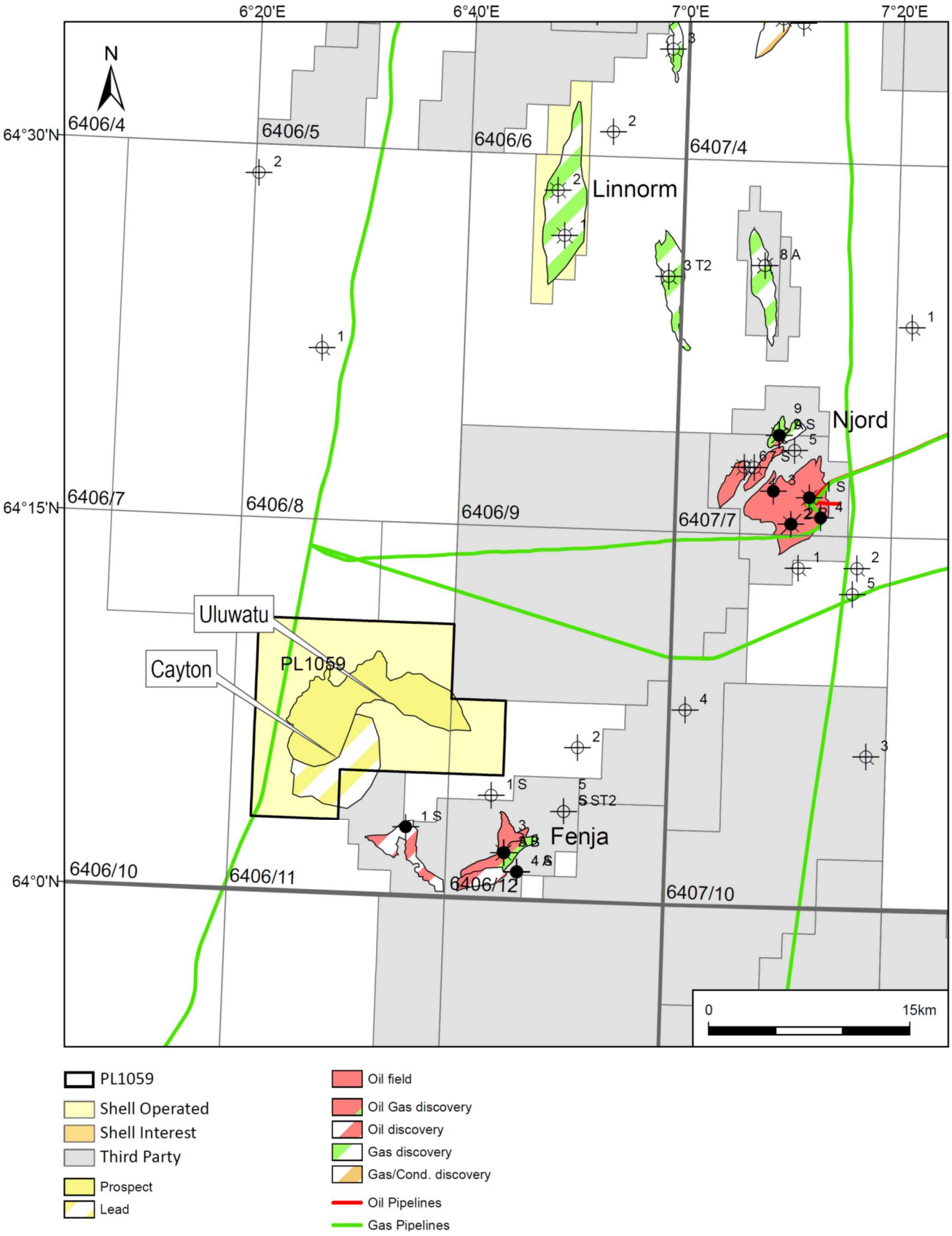

Figure 1 – PL1059 Location Map

2. Database Overview

2.1 Common Well Database

A summary of the license common well database is shown in Table 1and plotted on the map in Figure 2.

Table 1 - Well Database

Well name	Common name	Year	Result	TD (mMD)	Age/Fm. at TD	NPDID
6406/2-3	Kristin	1997	Gas/Cond	5258	Early Jurassic Åre Fm.	2849
6406/2-6	Ragnfrid	1998	Gas/Cond	5263	Early Jurassic Åre Fm.	3407
6406/2-7	Erlend	1999	Gas/Cond	4981	Early Jurassic Tilje Fm.	3878
6406/6-2	Onyx West	2007	Dry	4670	Early Jurassic Tilje Fm.	5359
6406/9-1	Linnorm	2005	Gas	5080	Early Jurassic Åre Fm.	4927
6406/9-2	Linnorm	2007	Gas	5348	Early Jurassic Åre Fm.	5454
6406/11-1S	n/a	1991	Oil	4185	Late Triassic Red Beds	1539
6406/12-1S	Kappa	1991	Dry	3965	Middle Jurassic Melke Fm.	1711
6406/12-2	Lambda	1995	Dry	4367	Middle Jurassic Melke Fm.	2640
6407/1-6S	Rodriguez	2013	Gas/Cond	4250	Early Jurassic Ror Fm.	7086
6407/1-7	Solberg	2014	Gas/Cond	3376	Early Cretaceous Lange Fm	7412
6506/11-2	Lange (Smørbukk)	1991	Oil/Gas	4813	Early Jurassic Åre Fm.	1754

2.2 Seismic Database

Regional mapping has been performed on a combined 3D dataset over the area of interest in the Halten Terrace. This includes seismic data, common to the partnership, with full 3D coverage over the license block. The key dataset used for the prospect evaluation is PGS15005. Angle stacks were used to generate relative amplitude versus angle of incidence (AVA) attribute volumes for quantitative interpretation (QI) evaluation. A summary of the license 3D seismic common database is shown in Table 2 and plotted on the map in Figure 2.

Table 2 –Seismic Database

Survey name	2D/3D	Aquisition Year	Operator/Owner	NPDID
PGS15005/17M05/18M05	3D	2015/17/18	PGS-NOPEC	8183
DN0902	3D	2009	DNO	7044
HTS99	3D	1999	TGS	3984
NH9806M	3D	1998	Equinor	3930
ST9302	3D	1993	Equinor	3626
ST97M5	3D	2000	Equinor	N/A
TO1201MR01	3D	2012	Total	N/A

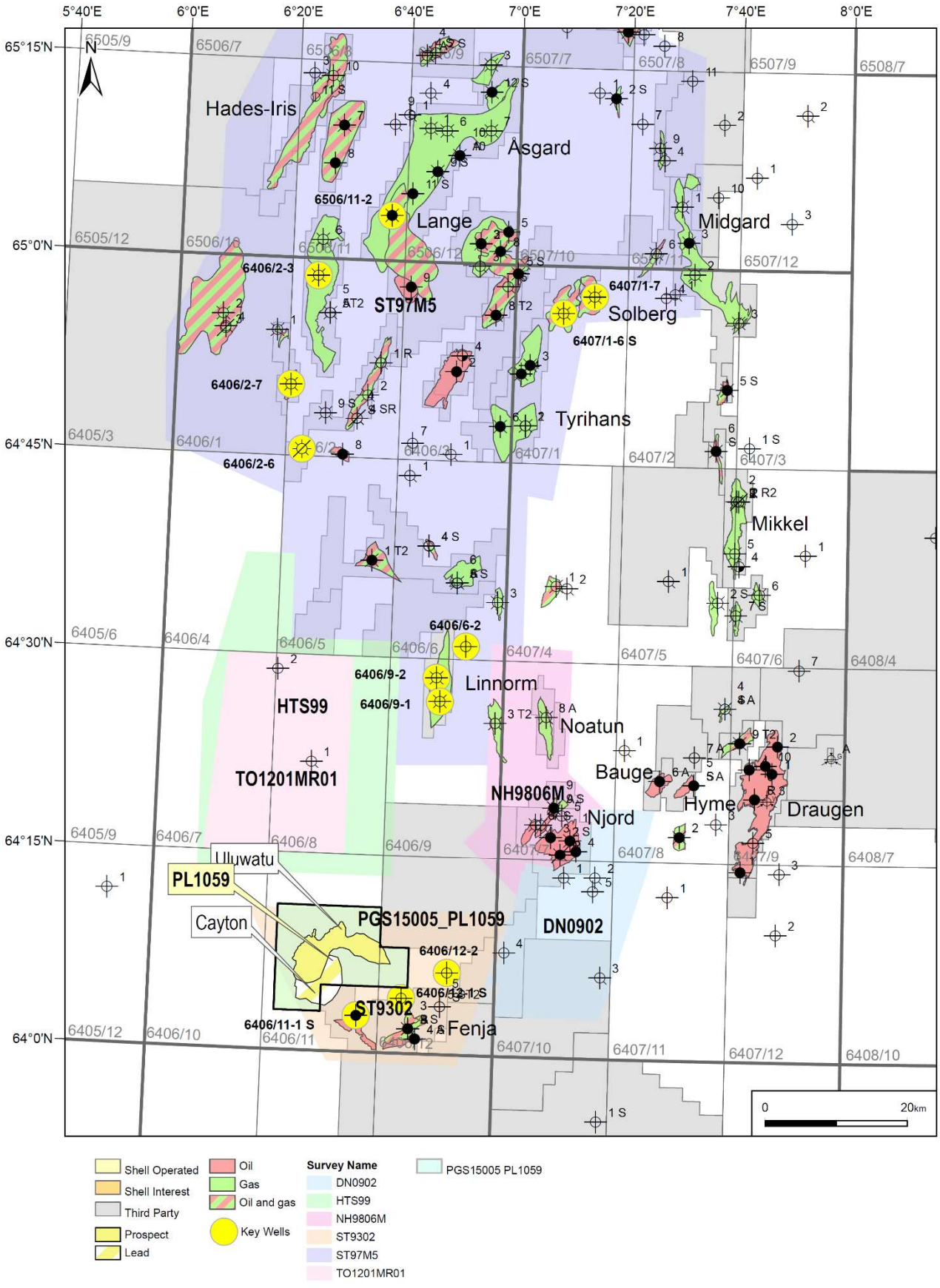

Figure 2 – PL1059 Common Well and Seismic Database

3. Results of Geological and Geophysical Studies

3.1 General G and G Studies

The following G and G studies were undertaken in the license evaluation:

Targeted geophysical studies

- Structured deployment of geophysical rock property analysis and seismic inversion methods in order to improve subsurface understanding relating to the Uluwatu prospect. Generation of AVA attributes from the extended PGS15005 volume.
- AI vs Vp/Vs evaluations, probabilistic AVA seismic inversion and scenario forward seismic modelling, aiming to evaluate seismic resolution, reservoir thickness, net-to-gross and porosity ranges along with the associated uncertainties based on the observed seismic response.

Basin modelling

- Comprehensive basin model calibration, including Lower-Upper Cretaceous carrier beds, to support hydrocarbon phase, migration focus and trap-fill assumptions.

G&G studies

- Gross depositional environment (GDE) studies and reservoir evaluations to asses reservoir quality in the license.
- Regional petrophysical studies and well analysis to support geophysical and geological studies. Integration of the geophysical and geological studies to further investigate the likelihood of effective onlap trapping system for Uluwatu stratigraphic onlap trap.
- Play based evaluation update for additional prospective plays within the license.
- Biostratigraphy review of relevant wells to evaluate possible missing stratigraphy in up-dip Fenja Jurassic penetrations.
- Detailed regional to prospect-scale structural evaluation.
- Reservoir Engineer evaluation of Cenomanian Lange Fm. Interval with emphasis on producibility and recovery rates.
- Volumetric and risking assessments.
- Evaluation of all prospective levels in license.
- Detailed structural evaluation of the potential impact of faults on prospectivity

3.2 Review of the geological framework

Prior to the license award, the Cenomanian Lange Fm. reservoir interval at Uluwatu was interpreted to represent a sandy, terminal turbidite-lobe complex with an input of proximal reservoir (sourced from exposed flanks surrounding the basin). Reservoir was implied to be of moderate to good quality. Cretaceous claystones were interpreted to provide lateral and top seal defining a stratigraphic pinch-out trap.

The results of the G&G work programme within the license period, led to a significant update in the reservoir model. Extended GDE evaluations indicate the reservoir fairway does not terminate at the Uluwatu lead but continues to the SW, into the Rås basin. The reservoir interval at Uluwatu is now interpreted to represent a deposit of a turbidite-apron fringe complex more than 150 km south of its provenance and that the more proximal basin flanks were submerged at the time of reservoir deposition.

4. Prospect Update Report

4.1 License Application

The location, volumes, POS and play of the prospect and lead applied for are outlined on Figure 3 and Table 3. As stated in section 1, the license evaluation focused on the maturation of the anchor prospect, Uluwatu. Therefore, only the Uluwatu prospect was updated from a POS and volume perspective.

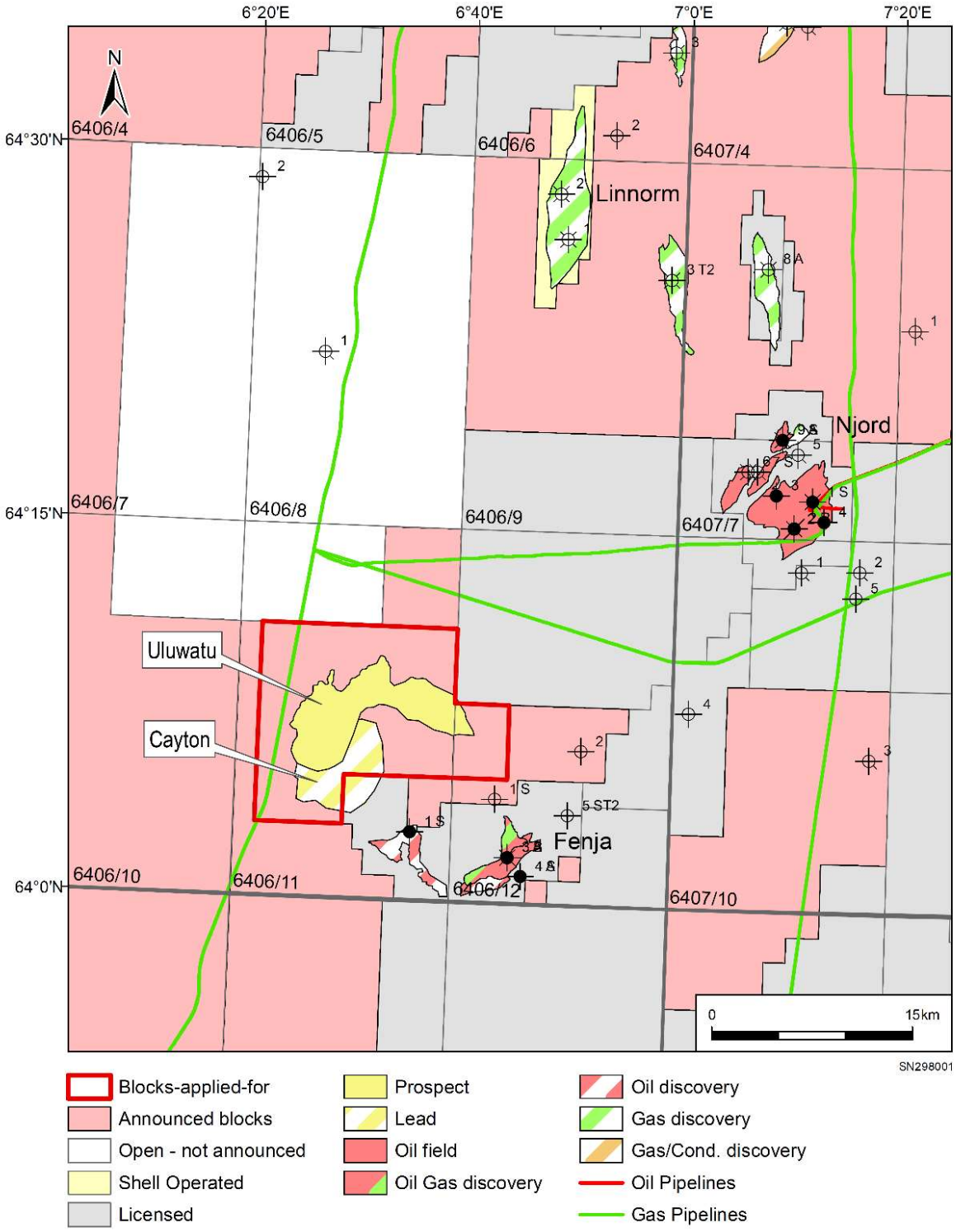

Figure 3 – APA19 License application Lead and Prospect map

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)						
6406/11 Uluwatu	P	Gas	0,34	1,87	3,72	6,15	30,90	58,70	0,14	100,0	Lange Fm/Upper Cretaceous	3840	Njord	35
		Oil	10,60	55,00	111,00	1,97	10,20	20,50	0,14	100,0	Lange Fm/Upper Cretaceous	3840	Njord	35
6406/11 Cayton	L	Gas								80,0	Lange Fm/Upper Cretaceous	3740	Njord	35
		Oil								80,0	Lange Fm/Upper Cretaceous	3740	Njord	35

Table 3 – Lead and Prospect Volumes and POS from the APA19 application document

4.2 Uluwatu Summary

The summary of the Uluwatu prospect is shown on Figure 4. It has been defined as a stratigraphic pinch-out or onlap trap, where the key uncertainty has been identified as trap definition and reservoir effectiveness; the key risks being recovery and retention.

4.2.1 Reservoir

Offset wells indicate that fringe deposits have thin, laminated (e.g. 2-6m) sets of poor-quality sandstones (< 1md permeability). Seismic inversion studies of Uluwatu support the updated reservoir model.

4.2.2 Charge

Prior to award the Basin modelling indicated charge, with either a gas or oil phase. Re-evaluation of the basin model within the license period supported gas as the most likely phase at Uluwatu with main charge from the deeper Rås basin to the west, while the oil case was not assessed any further.

4.2.3 Seal

Prior to award, the Cretaceous claystones were interpreted to provide lateral and top seal defining a stratigraphic pinch-out trap. However, analysis during the license period identified that the trapping configuration is at risk from an up-dip 'thief zone'.

4.2.4 Recovery

Gas-filled, thinly-bedded sandstones may be present at Uluwatu. However, reservoir engineering evaluations indicate there will be challenges on recovery. The base case reservoir (0.2 md permeability) is not expected to flow naturally and is too thin for hydraulic stimulation to be feasible, so negligible recoverable volumes are predicted. A high case reservoir (permeability of ~1 mD) would enable some gas production, but with very limited EUR per well (1.2 – 2.5 Bcm). Initial rates are also expected not to be economic (0 – 0.2 – 0.4 mln. Sm3/D) due to hydraulic stimulation not being feasible. A relatively large lead area of 32 -102 km2 and limited net reservoir of 7 – 70m results in a low GIIP density (0.21 – 0.46 – 0.48 Bcm/km2). This means that each well need to drain a large area (~8km2 +) to achieve an economic EUR, which is not feasible with a 1.0 mD reservoir. Thus, although the prospect gPOS was upgraded to 40% (chance of finding hydrocarbons in any type of reservoir), the probability of finding recoverable volumes was assessed to be only 10%.

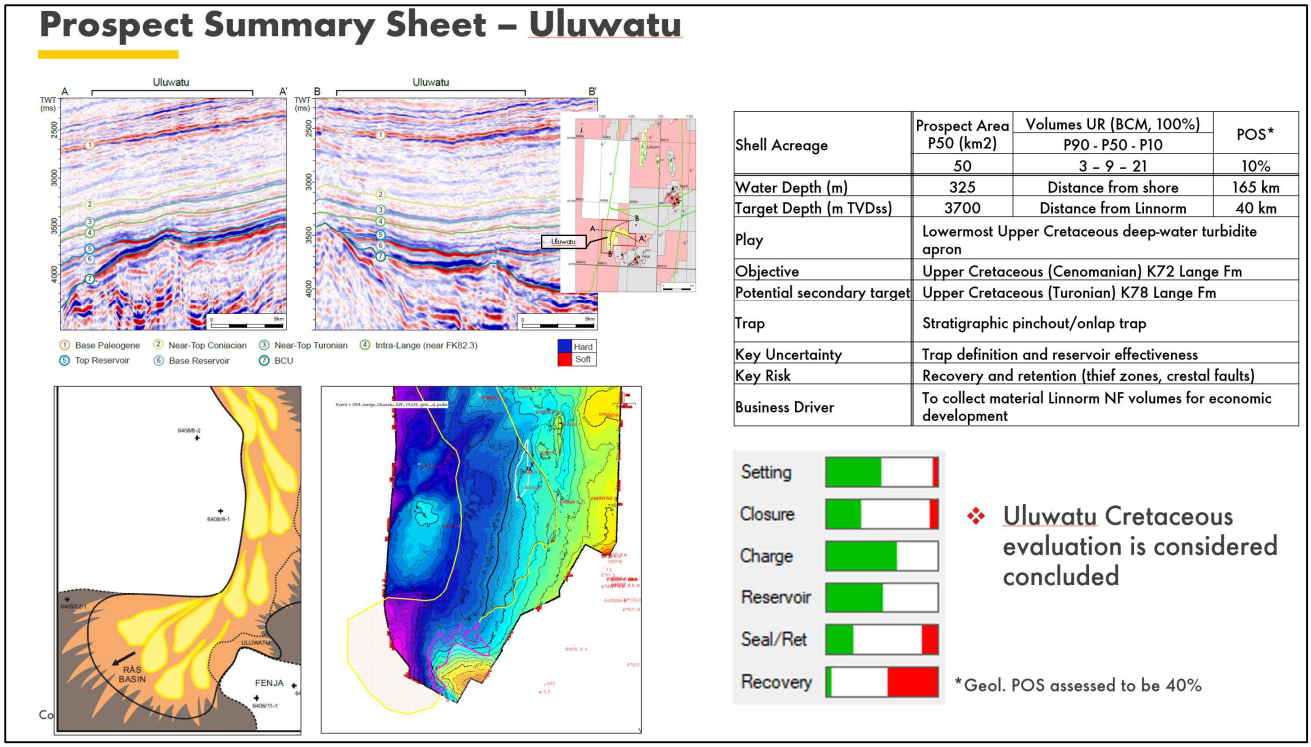

Figure 4 – Prospect Summary Sheet

4.3 Other Prospectivity

The secondary lead in the License, the Upper Cretaceous, Early Turonian target (Cayton) is also evaluated as not being economically viable. G&G studies downgraded reservoir properties for this lead. Geophysical studies and offset wells indicated the Turonian fairway was muddier than the Cenomanian fairway and that reservoir is expected to be of very poor quality. Seismic inversion analysis of Cayton imply mud-rich lithologies or areas with very thin sandstones. The downgrade of this play was further substantiated by the results of the recent Lange Fm. sandstone discovery (well 6506/11-10, ~90 km north of Cayton) and appraisal on the same reservoir fairway showing the very poor quality reservoirs in the fringe deposit sandstones.

The license was awarded over all stratigraphic levels. Potential secondary plays included the Upper Triassic and Lower-Middle Jurassic, Upper Jurassic, latter part of the Upper Cretaceous and Lower Paleogene post-rift sequences. Each of these secondary plays have been investigated. No material opportunities within the license have been identified.

5. Technical Evaluations

As discussed in 4.2.4 Recovery, the anticipated reservoir quality and resulting expected low recovery from any reservoirs, did not support further development planning for the Uluwutu prospect. On account of the low volume and high geological risk this opportunity was not considered an attractive drill candidate and it was apparent that no development realisation would result a commercially viable or attractive outcome.

6. Conclusions

The evaluation of the license is complete. All work commitments on the license have been fulfilled, and a drill-worthy prospect has not been identified. Therefore, the partnership unanimously recommends the relinquishment of PL1059.