



PL883 License Surrender Report

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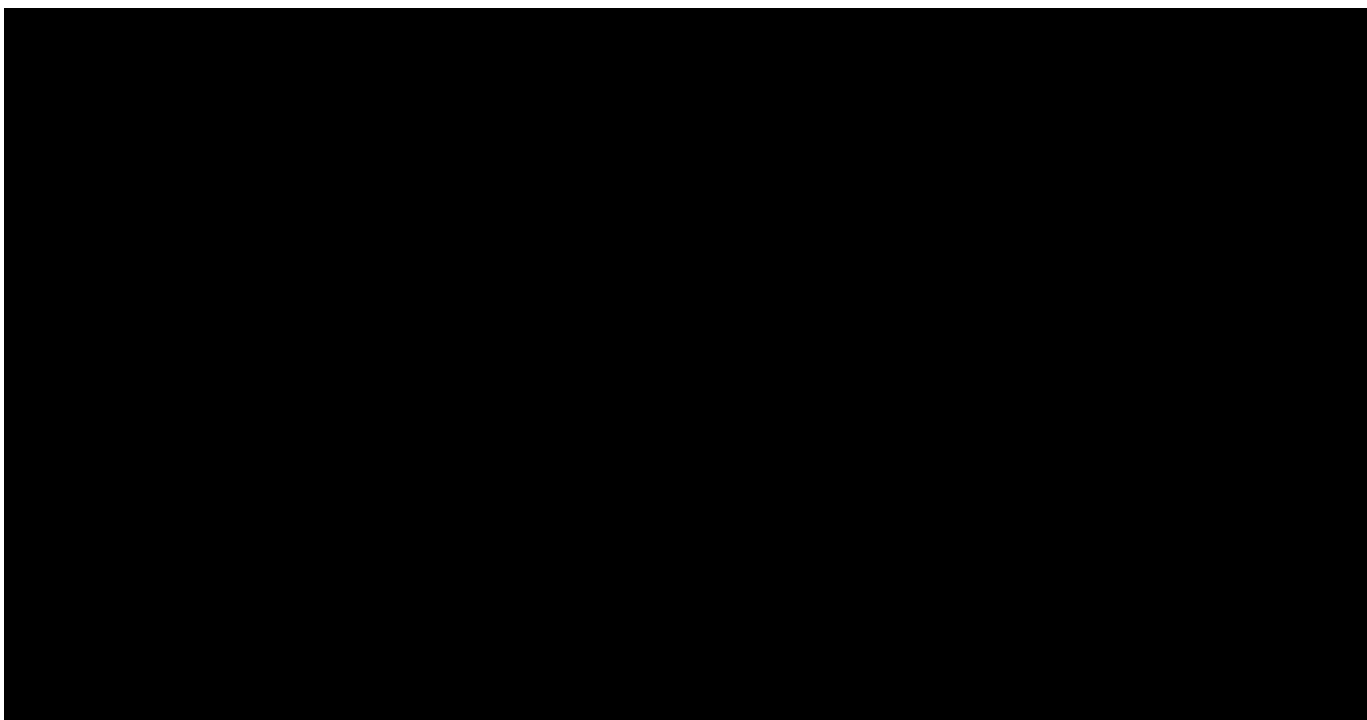


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1 License history

License: PL883

Location: Blocks 35/5, 35/8

Awarded: 10.02.2017 (APA 2017 application)

License period: Expires 10.02.2024

License group: Equinor Energy AS 60% (Operator)
 Wellesley Petroleum AS 40%

License area: 515,966 km²

Work obligations:

- Acquire and/or reprocess 3D seismic
- Initial Drill or drop decision exp date: 10.02.2019
- Extended drill or drop decision exp date: 10.11.2019

Meetings held:

21.04.2017	EC/MC startup meeting
21.11.2017	EC/MC meeting
05.11.2018	EC/MC meeting
10.04.2019	EC workshop
16.09.2019	EC meeting
13.11.2019	MC meeting

Work performed:

2017:	License start-up.
2017/2019:	Purchased CGG broadband 3D seismic, part of the license Common Database PSDM re-processing specific for Tåren prospects. Evaluation of all prospective levels in license. AVO work on all prospective levels.
2019:	Decision made to surrender the license.

Reason for surrender

The work obligations in PL883 was to acquire and reprocess 3D seismic. The new, high quality multiclient broadband seismic survey CGG17M01 (PSTM) is covering the area. In addition, the CGG14003 re-processed PSDM was performed specific for the main prospects, Tåren West and Tåren East.

The prospects Tåren East and Tåren West are combined structural and stratigraphic traps. These prospects are of Lower Cretaceous age in the Åsgard Formation. It is possible to test the two prospects with a well with sidetrack. Upside potential was also evaluated in the upper part of the Åsgard Formation, and two segments at this level could be tested in the same well. Nothing of interest has been found in the overburden, above the Lower Cretaceous interval.

An extensive seismic mapping and prospect evaluation has been conducted focusing mainly on the Lower Cretaceous play, including AVO analysis, biostratigraphy and petrography to try to reduce the high prospect risks.

However, the updated evaluation of the PL883 prospectivity shows that for the main prospects Tåren West and Tåren East, the final volumes and risks appear insufficient to recommend this as a drilling candidate. Assessment and maturation of potential in the overburden also gives volumes and risks that are insufficient. Based on this the partnership do not see any attractive drilling candidate in PL883 and have decided to drop the license.

2 Database overviews

2.1 Geophysical data

Survey name	Type	Company responsible	Year	NPDID for survey	Market available
CGG17M01	3D	CGG	2017	8128 and 8179	N
CGG14003	3D	CGG	2015	7984	Y

Table 1: List of seismic surveys in the common license database (see also Figure 1).

- CGG17M01 Final seamless Horda survey PSTM inside license boundary PL883.
- PL883_Horda_Final_Ki-PSDM Time and Depth (proprietary) inside license boundary PL883.

2.2 Well data

	Wellbore name	Completed year	Drilling operator	Content	Oldest penetrated age	NPDID wellbore
Released wells (older than 20 years)	35/3-1	1976	Saga Petroleum ASA	Dry	Middle Jurassic	432
	35/3-2	1980	Saga Petroleum ASA	Gas/Cond	Pre-Devonian	136
	35/3-5	1982	Saga Petroleum ASA	Dry	Pre-Devonian	433
	35/8-3	1988	Norwegian Gulf Expl	Gas	Middle Jurassic	1288
	35/8-4	1999	BP Norway Limited U.A.	Dry	Late Jurassic	3791
	35/9-1	1989	Norsk Hydro	Oil/Gas	Pre-Devonian	1375
	35/9-2	1991	Norsk Hydro	Oil/Gas	Pre-Devonian	1600
Partially released (older than 2 years)	35/3-7 S	2009	VNG Norge AS	Gas	Middle Jurassic	6154
	35/4-1	1997	Norsk Hydro	Shows	Triassic	2993
	35/6-1 S	2009	Statoil	Dry	Paleocene	6000
	35/6-2 S	2009	Statoil	Dry	Early Cretaceous/Jurassic?	6063
	35/8-5 S	2003	Norsk Hydro	Shows	Middle Jurassic	4761
	35/9-3 T2	1997	Norsk Hydro	Oil/gas	Pre-Devonian	3206
	35/9-5	2010	Nexen Expl Norge	Dry	Middle Jurassic	6293
	35/9-6 S	2010	RWE Dea Norge AS	Oil/gas	Late Triassic	6429
	35/9-11 S	2014	RWE Dea Norge AS	Oil/gas	Early Triassic	7347
	35/9-11 A	2014	RWE Dea Norge AS	Oil/gas	Early Jurassic	7469
	35/9-9	2013	GDF Suez E&P Norge AS	Dry	Triassic	7257
	36/4-1	1996	BP	Dry	Pre-Devonian	2847
	36/7-3	2002	Norsk Hydro	Dry	Middle Jurassic	4427
	36/7-4	2016	Engie E&P Norge AS	Oil/gas	Lower Cretaceous	7988

Table 2: List of wellbores in the common license database (see also Figure 1).

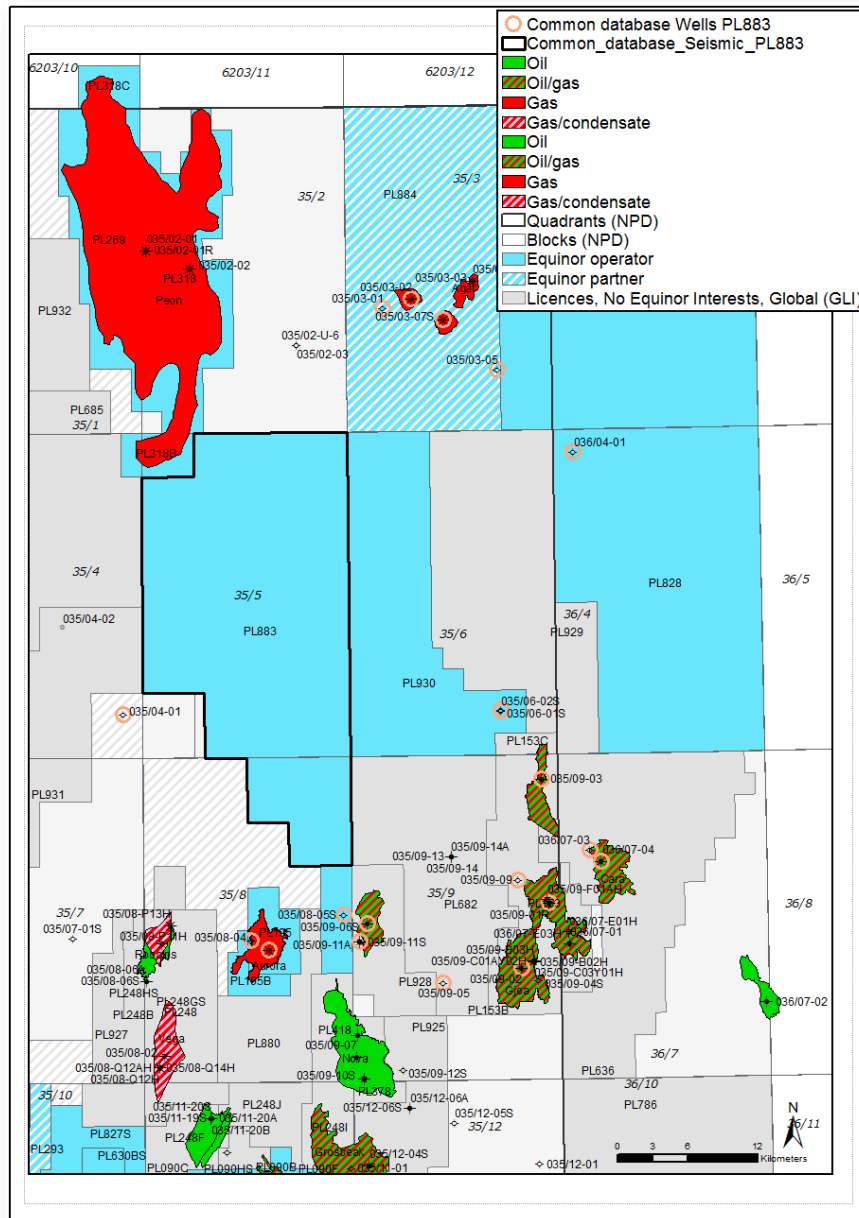


Figure 1: Seismic and well database.

3 Results of geological and geophysical studies

The main prospectivity in PL883 is the lower part of the Lower Cretaceous Åsgard Formation, where two prospects Tåren East and Tåren West have been evaluated.

The play concept is Åsgard sandstones sourced from the Norwegian mainland through multiple entry points along the margin. The prospects are separated by a fault, where Tåren West is up-faulted compared to Tåren East which is down-faulted (from both east and west). The trap concept also includes stratigraphic trapping in the south where the lower Åsgard pinches out towards the BCU, and towards the East where there are several faults going upwards towards well 35/6-2 S, Grosso. Presence of an efficient top seal is a key risk, as well as base seal towards the BCU, and side seal where there is potential self-juxtaposition of Åsgard sands. The fault separating the Tåren West and Tåren East prospects has the highest throw in the south towards the crest, and the throw gradually decreases going north (Figure 2).

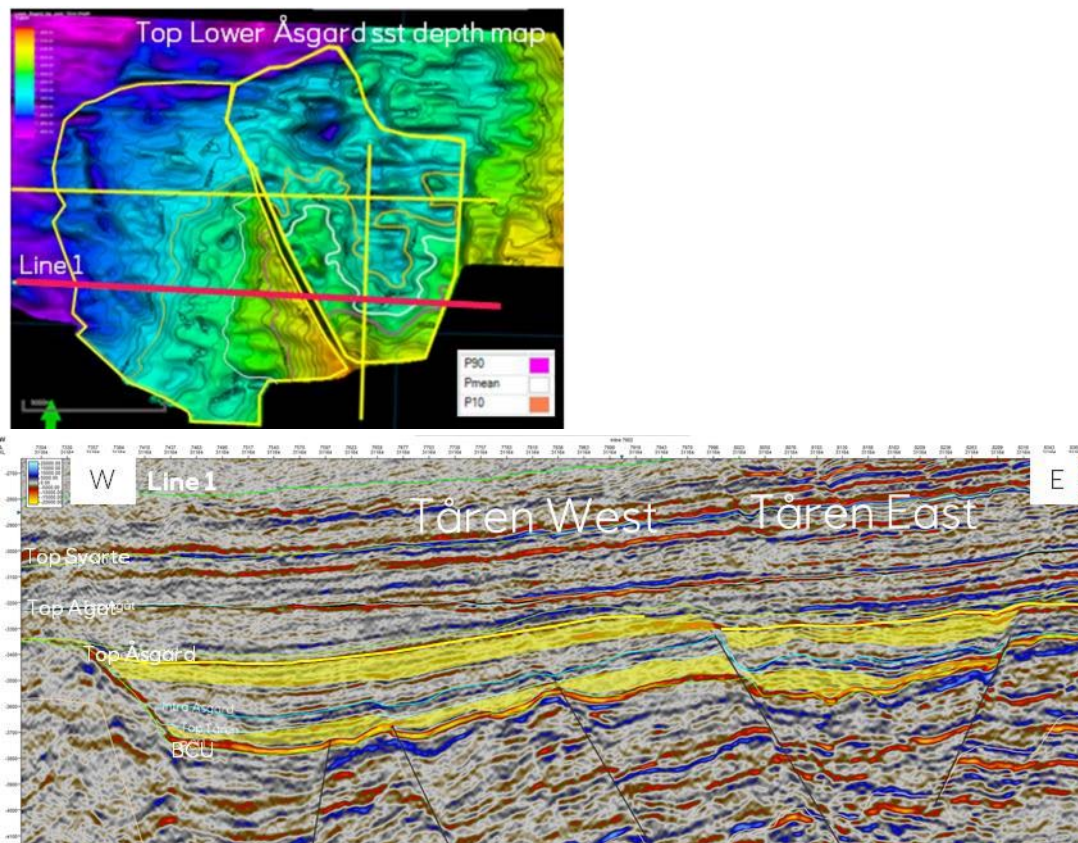


Figure 2: Tåren East and Tåren West prospects. Depth map of Lower Åsgard Formation, representing top reservoir of the main segments, and west-east seismic section through the prospects (line shown in red on map). The upper and lower segments shown in yellow on the seismic section.

There is potential for several sands present internally in the Åsgard Formation in both Tåren West and Tåren East (Figure 2). Two upper Åsgard sands are mapped, one above Tåren West and another above Tåren East, both based on soft amplitudes. These makes two conceptual segments in the upper part of Åsgard Formation. The main Tåren prospect reservoir is the lower Åsgard sand just above BCU. The upper Åsgard for both the West and East segments are in the same interval as the Åsgard sands found in the Grosso well, 35/6-2 S, whereas the lower Åsgard sand is not proven on the Måløy Slope, and the Grosso well didn't penetrate this interval (Figure 3). This, combined with the depth of the prospect (>4000m), is the reason for high risk on reservoir in this lower interval.

It is expected that the prospects could have relatively high pressures, as they are likely to be in direct communication with the Sogn Graben to the north.

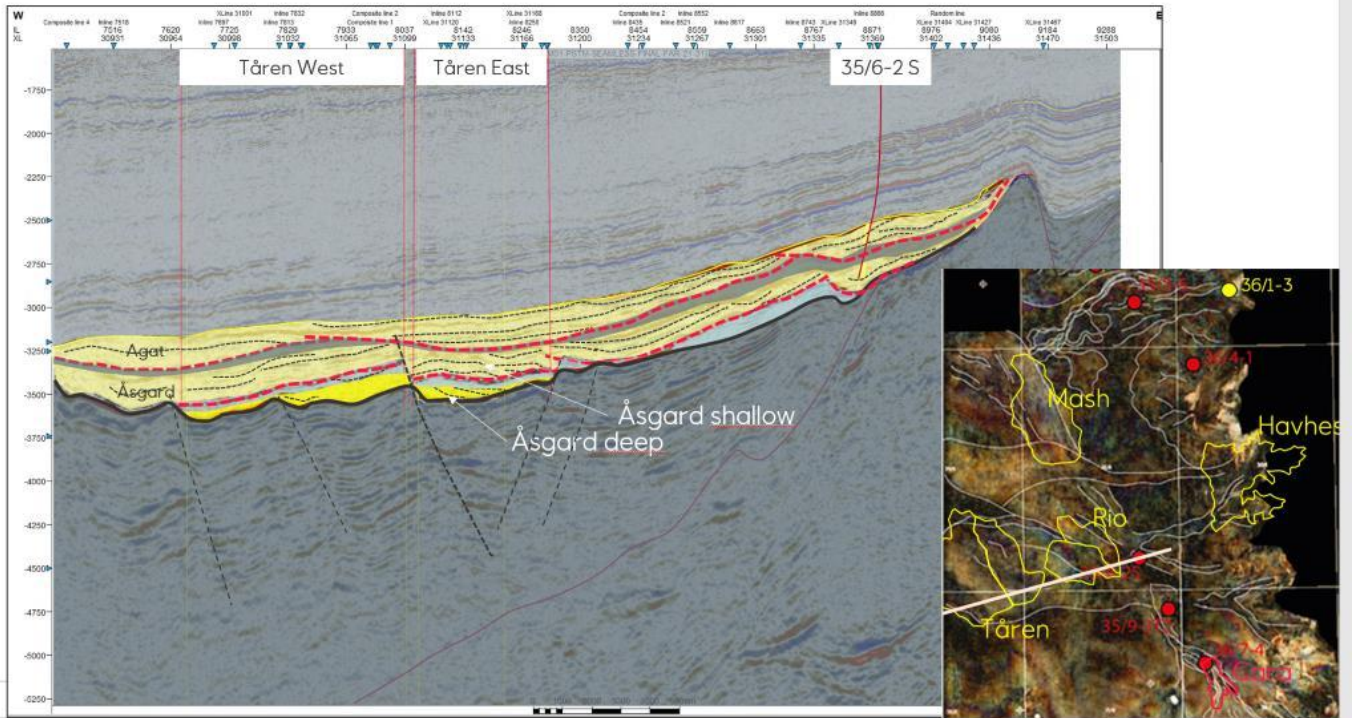


Figure 3 Tie-line from Tåren to Grosso well 35/6-2 S.

Expected hydrocarbon phase is gas. The main source rock is the proven Heather Formation mostly in a gas mature setting around the prospects. The Agat discoveries in block 35/3 have a lean gas condensate fluid type. Also, Draupne Formation source rock is present in the area which could add to the fluids within the prospects.

AVO work carried out for the PL883 license concluded that the strong heterogeneity from Top Agat to BCU causes very strong variations in seismic response. The attribute maps of the AVO volumes suggest that the bright anomalies observed at Tåren might be a part of a regional lithology trend in SE-NW direction. This trend is observed for the upper part of the Åsgard Formation. Based on the AVO analysis of the seismic data (CGG17M01-PSTM-SEAMLESS), it is very difficult to prove presence or absence of the Tåren lower Åsgard sand.

4 Prospect update report

Prospect evaluation has been done on both Upper and Lower segments of Tåren West and Tåren East. All segments have a low P_g and the mean volumes for the Tåren prospects are considered non-economic. See tables 3 and 4 for volumes and risks.

Prospect segments	In-place res. (MSm3 o.e.) Total resources, Total			Recoverable res. Gas (GSm3)			Recoverable res. Condensate (MSm3)			Poil %	Pgas %	Pg %
	P90	Mean	P10	P90	Mean	P10	P90	Mean	P10			
35/5 Tåren East Lower	4,15	9,40	16,50	1,34	3,06	5,36	0,23	0,70	1,32	0,0	10,8	10,8
35/5 Tåren East Upper	4,22	14,90	33,20	1,37	4,87	10,60	0,25	1,11	2,49	0,0	5,8	5,8
35/5 Tåren West Lower	4,43	12,40	25,00	1,43	4,03	8,13	0,25	0,93	1,93	0,0	10,8	10,8
35/5 Tåren West Upper	3,92	11,20	21,60	1,97	5,65	10,90	0,22	0,72	1,44	0,0	6,6	6,6
35/5 Tåren East+West Lower (aggregated)	4,56	13,70	27,50	1,48	4,47	8,95	0,27	1,01	2,10	0,0	17,2	17,2

Table 3: Updated in place recoverable resources for Tåren West and Tåren East, all segments. The lowermost row shows results of Tåren lower Åsgard segments, calculated in GeoX using dependencies.

Tåren West	Unrisked Recoverables (Gas GSm3)			Unrisked Recoverables (Cond MSm3)			Pg (%)
	P90	Mean	P10	P90	Mean	P10	
APA 2017	3,96	13,9	29,21	0,61	2,23	4,66	16
2019 Update	1,58	4,91	9,77	0,25	0,96	1,98	16,6

Tåren East	Unrisked Recoverables (Gas GSm3)			Unrisked Recoverables (Cond GSm3)			Pg (%)
	P90	Mean	P10	P90	Mean	P10	
APA 2017	1,01	4,72	10,81	0,15	0,75	1,73	
2019 Update	1,34	3,85	7,67	0,24	0,89	1,8	15,7

Table 4: Updated recoverable resources for Tåren West and Tåren East (aggregated with both upper and lower segments of Åsgard Formation), compared to volumes and risks from APA 2017.

5 Technical evaluation

The Tåren West prospect was evaluated as a potential subsea satellite to the Gjøa platform, which is located approximately 27km to the southeast of Tåren West. Two new templates would cover the reservoir area with a total of six deviated gas producers and the templates would be tied back to the Gjøa platform for production and control purposes.

6 Conclusion

The work program for PL883 has been completed with the acquisition of new 3D seismic survey (CGG17M01) and re-processed PSDM from CGG14003. The new data were used to evaluate the Tåren East and West prospects and to carry out AVO analysis. Updated prospect evaluation reduced the volumes significantly compared to the APA volumes, and are considered non-economic. Based on this, the partnership do not see any attractive drilling candidate in PL883 and have decided to drop the license.