REPORT

eni norge

Report ID.:	ENINO/EXP/4759240	Reference no.:	ENINO/EXP/4759240

SUBJECT:	**PL529 License Full Relinquishment Report**
ABSTRACT:	The PL529 failed to test HC and reservoir presence
DESCRIPTION:	

			[redacted]		
Rev.	06/05/2015	Final Version	Prepared	Verified	Approved

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1. KEY LICENSE HISTORY

PL529 located offshore Norway in the Western part of the Barents Sea (Figure 1) has been awarded on 15.05.2009 (20th Norwegian Licensing Round) and will expire on 15.05.2016.

The license consists of 2 blocks, 7016/2 and 7116/11, for an area of 676 Km² and lies in about 1300-1400m WD.

The J.V. present configuration consists of:

- Eni Norge AS 30% (operator)
- DONG E&P Norge AS 20%
- OMV Norge AS 20%
- Wintershall Norge 20%
- Repsol Exploration Norge AS 10%

The license was committed to drill two minus 1 exploration wells (one firm, one contingent). The first well was to be drilled in 3 years from the award (15th May 2012) with commitment to penetrate 200m in the Cretaceous or reach a depth of 4000m ssl.

Decision to drill the second well or drop the license is to be taken within the 15th of May 2013. In case decision is taken to commit to drill, the 2nd well shall be drilled within 6 years from the award. Due to rig delay a postponement of one year, followed by additional 6 months extension were guaranteed to the JV. New deadline from Drill or Drop is 15.05.2015.

The license includes the Bønna structure(Figure 1) a very large structural unconformity trap that trends in N-S direction situated in Troms III area.

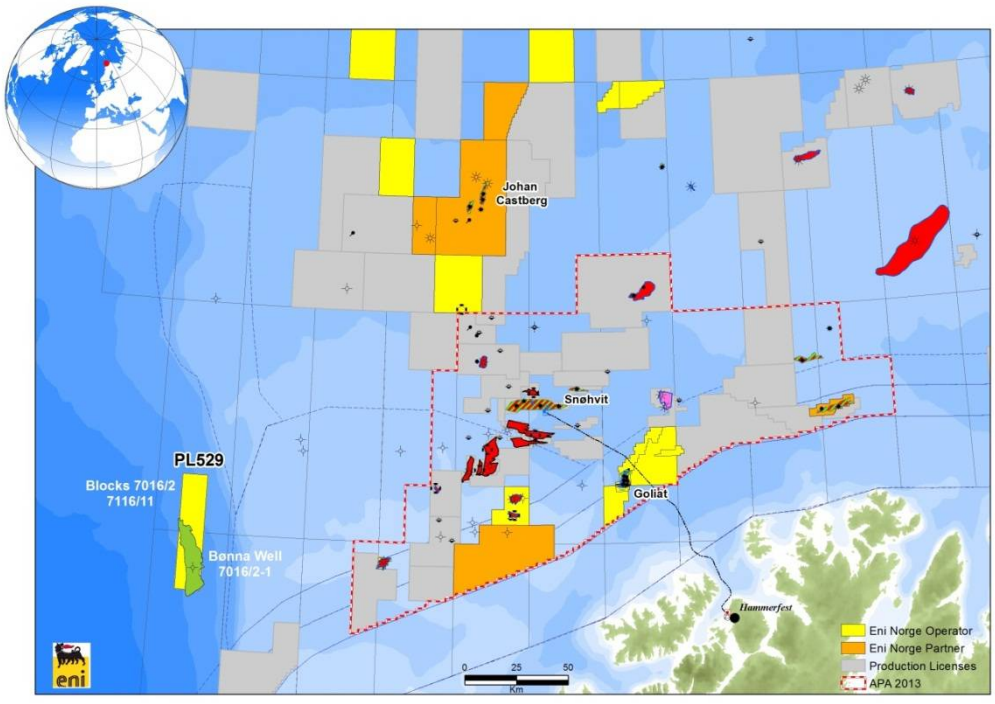


Figure 1: PL529 Location Map

2. DATABASE

The Bønna Struture is located at a distance of ~80 km to the southwest of well 7117/9-1 drilled on Senja Ridge; ~130 km to the south of well 7216/11-1S drilled on Sørvestsnaget Basin; and ~300 km to the south of well 7316/5-1 drilled on the transition of the Sørvestsnaget Basin to the Vestbakken Volcanic Province. These three wells are reference wells for the Prospect 7216/11-1S, 7316/5-1 and 7117/9-1. The seismic interpretation of the Troms III Bønna Prospect and surrounding area has been carried out on 3D seismic data (2008 and 2010 re-processed survey) (Figure 2). In addition, the 3D survey NH9803 (used in drilling well 7216/11-1S) and 2D seismic lines have been interpreted (surveys BARE05, D-82, EL9701, GVH-90, NH8401, NH8403, NH9702, NH9703, NPD-84, NPD-TR-73, NPD-TR-74, NPD-TR-82, T-85, and TGS-90 (Table 1) and used to tie in the Prospect to well 7216/11-1S (primary reference well).

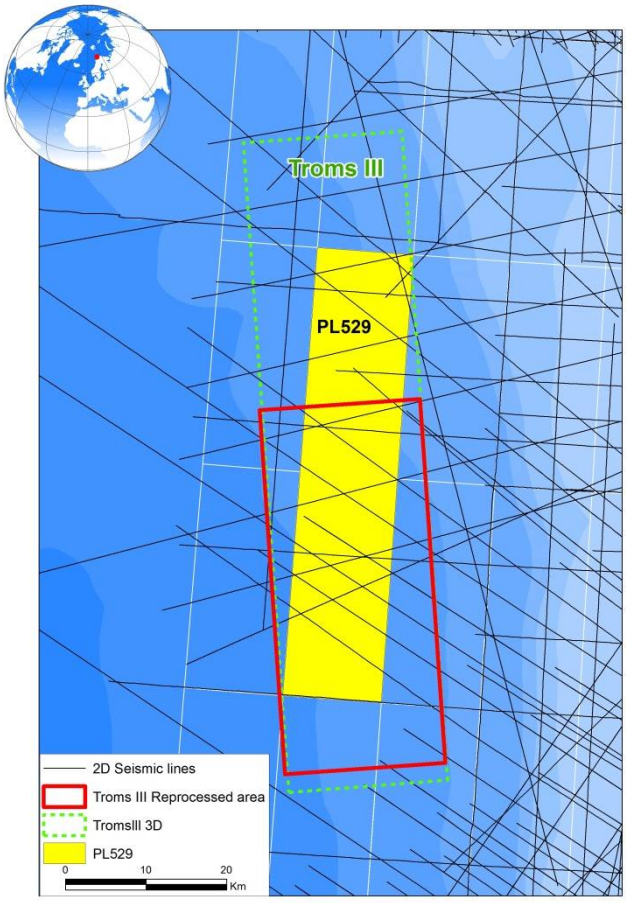


Figure 2: PL529 2D and 3D Seismic coverage

3D survey	In appl. blocks (km2)	Total
Troms III	1030	1597.00

2D Survey	Line	Length (km)
GVH-90	GVH-90-303	4.83
NBR07	NBR07-132933	13.82
NH9703	NH97-453	13.97
NH9703	NH97-454	12.79
NH9703	NH97-D005	14.20
NH9703	NH97-D006	12.82
NH9703	NH97-D009	14.41
NH9703	NH97-D010	14.23
NH9703	NH97-D012	14.01
NH9703	NH97-D013M	15.02
NH9703	NH97-D014M	13.82
NH9703	NH97-D015M	12.90
NH9703	NH97-D021M	11.74
NPD-TR-82	D-1-82	13.93
NPD-TR-84	T-01-84	4.41
NPD-TR-85	T-06-85	14.27
NPD-TR-85	T-11-85	8.03
NPD-TR-85	T-26-85	12.27
NPD-TR-85	T-27-85	12.17
NPD-TR-85	T-28-85	12.09
NPD-TR-85	T-29-85	8.56
NPD-TR-85	T-30-85	11.99
Total		**266.29**

Table 1: PL529 Seismic Database

3. REVIEW OF GEOLOGICAL FRAMEWORK

The south-western Barents Sea area, including the Sørvestsnaget Basin where the Troms III Bønna Prospect is located and the nearby Bjørnøya, Tromsø and Harstad basins, is a province of particularly deep Cretaceous and Cenozoic basins. It has been suggested that the Sørvestsnaget Basin and the other marginal basins experienced significant subsidence since Early Cretaceous and they have been mainly evolved due to Late Cretaceous-Paleocene rifting and thick sedimentation, prior to lithospheric break-up and opening of NE Atlantic during early Eocene times farther to the west.

It has been postulated that marine conditions persisted the Sørvestsnaget Basin throughout Eocene time, with deposition of significant sandy submarine fans during part of the Eocene time The Bønna area is located along the regional De Geer Zone mega shear system. As a result an extremely complex interaction between compressional and extensional stresses was acting in the area at least from Paleocene time. The shear movement related to the Ocean produced a complex paleo-morphological situation suggesting the occurrence of pull-apart basins separated by local highs. In such a scenario there was the possibility for local erosion and sedimentation processes.

The scenery has dramatically changed during the Northern Hemisphere Glaciations since about 2.6 Ma, when large Plio-Pleistocene depocenters formed fans in front of bathymetric troughs scoured by ice streams eroding the shelf.

The reservoir target is believed to be Intra Eocene turbidite sandstones, vertically sealed by thick intra formational Paleogene and Neogene shales and mudstones that are proven by drilling. The reservoir target has been proven by 3 wells in the same regional setting in the Barents Sea (wells 7216/11-1S, 7316/5-1, and re-interpreted 7117/9-1); however, some uncertainty exists about its southern/western extension and reservoir lithofacies in Troms III area.

The Upper Jurassic Hekkingen Fm. is expected to be the main source rock. Its presence is proven in all wells that penetrate Upper Jurassic stratigraphic levels along the Troms-Finnmark/Ringvassøy and Bjørnøyrenna Fault Complexes west of Hammerfest Basin and Loppa High. Additional source rocks may be the organic rich shales at the Lower Cretaceous Knurr, Kolmule, and Kolje formations seen regionally in several wells in the Barents Sea. Seismic observations also indicate that at deep depocenters adjacent to the Prospect possible Paleocene source rocks at a pull-apart restricted basin setting may be present.

The Bønna Prospect Eocene trap was efficient during late Cenozoic with re-expulsion at similar times of conceptually earlier expelled and trapped hydrocarbons at deeper levels. Due to the considerable burial depth of the potential source rocks, only gas phase is expected. Migration of hydrocarbons is expected to mainly occur vertically along faults and the presence of prominent Late Cretaceous-Paleocene low-angle detachment faults in Troms III area may have facilitated hydrocarbon re-migration and provided vertical migration pathways. The elevated Troms III Bønna Prospect is favourably located at the focal/crest point of the nearby deep Sørvestsnaget and Harstad basins, which are believed to be kitchen areas for generation and expulsion of hydrocarbons.

4. PROSPECT UPDATE

The Bønna Prospect located on a rotated fault-block dipping towards east is a large structural unconformity trap that trends in N-S direction. The expected reservoir interval was believed to

be Intra Eocene basin floor turbidite deposits and the expected hydrocarbon phase gas. No other prospect is recognised in the two blocks.

4.1 Pre Drill status

The trap is a dipping rotated fault-block with a well-defined closure: apex is at 3086 m and spill point at 3450 m, providing a closure relief of 364 meters. Few deep-penetrating faults trending NE-SW are present, and fault intensity decreases at shallower levels towards the top of the structure. The overall area of closure is approximately 200 sq km, however the Intra Eocene target is not present in the northern part of the structure.

A geological model has been developed, considering the Intra Eocene top reservoir and the base of the Eocene sequence. The effective area of structural closure is about 150 km². The target reservoir is of Intra Eocene age and lateral seal is considered to be of Late Eocene age, whereas thin Oligocene-Miocene and thick Plio-Pleistocene shaly sequences overlay the structure; some risks on lateral seal have been taken into account.

The Bønna Prospect trap efficiency is supported by prominent seismic amplitude anomalies related to possible DHIs, such as flat-event and possible seismic amplitude shut-off.

No other prospectivity is present in the license.

Pre Drill seismic interpretation status is illustrated in the figure 3.

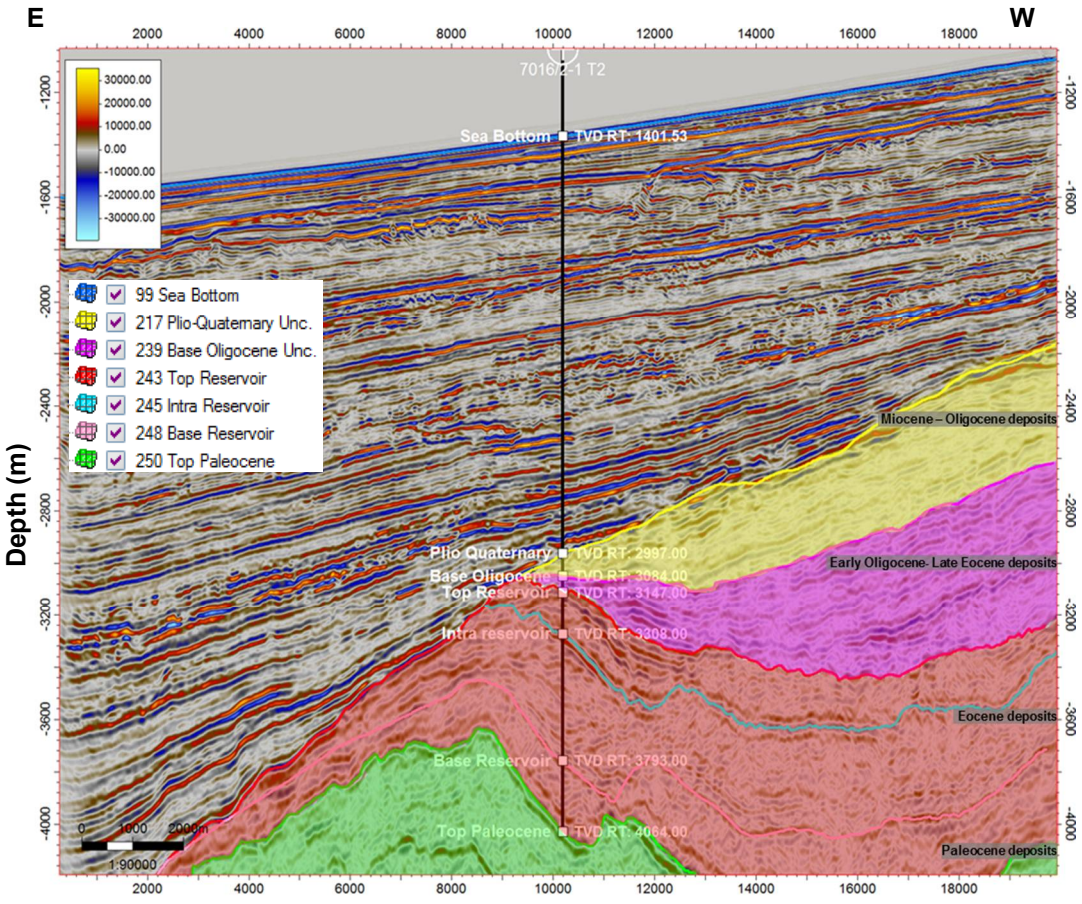
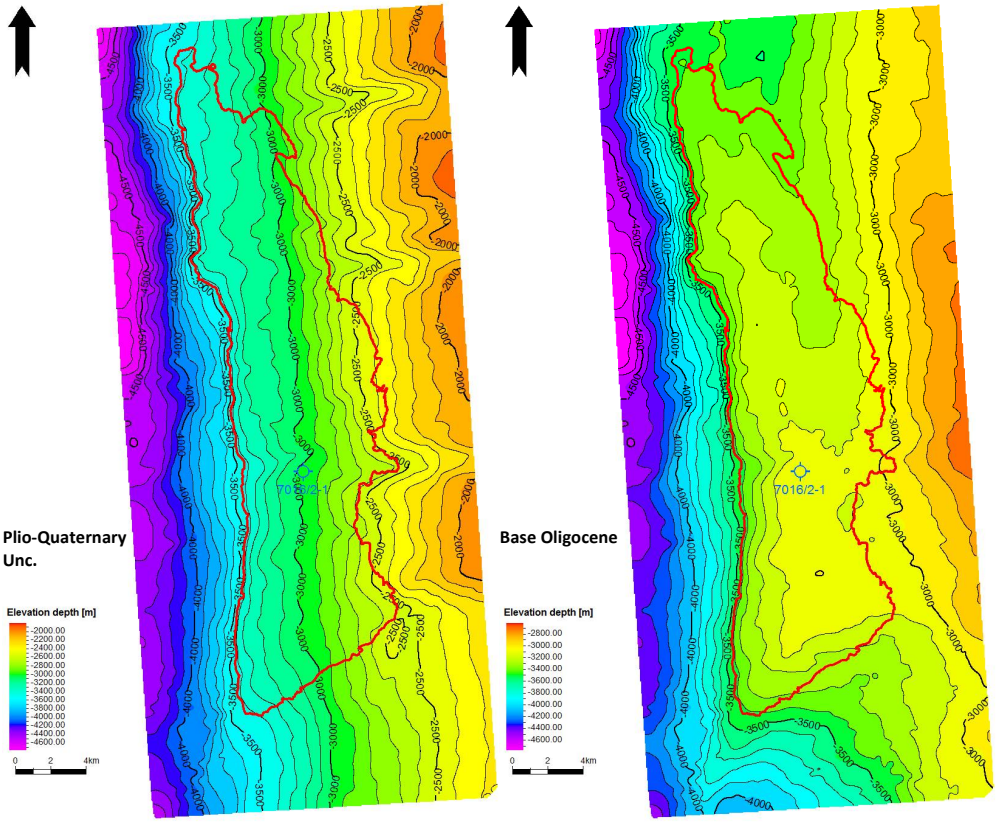


Figure 3: XL 3478: Pre Drill seismic interpretation status

The Pre Drilling main geological mapping is illustrated in the figure 4.



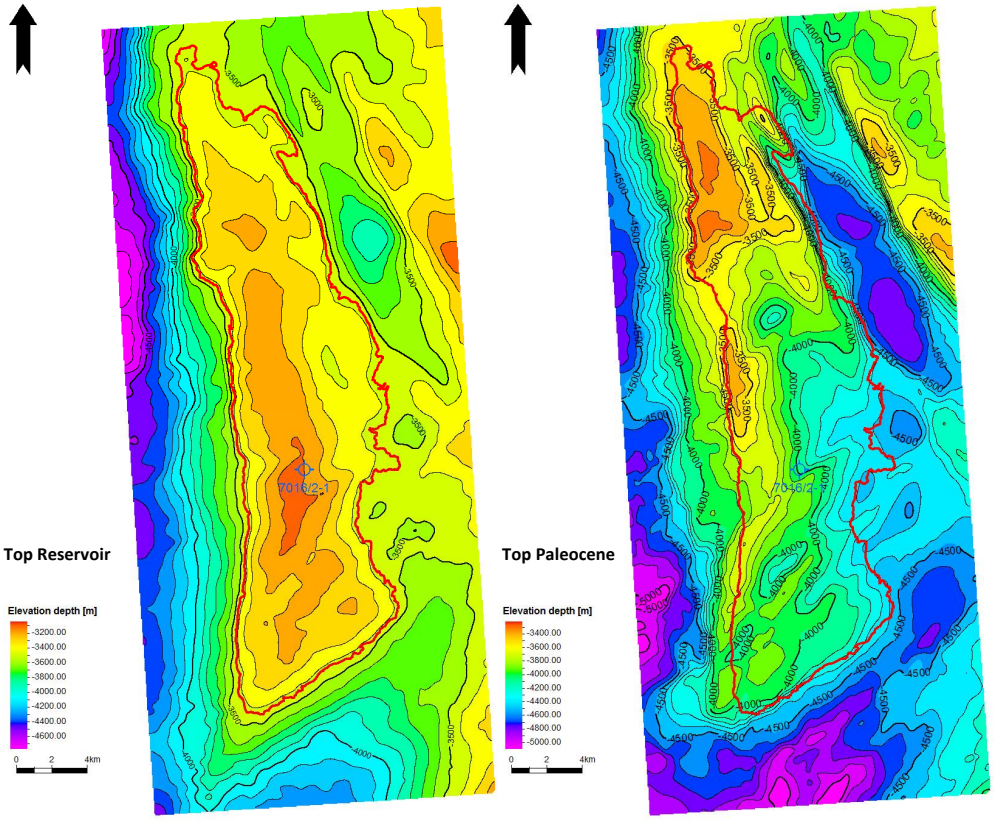


Figure 4: PL529 Pre Drill main geological mapping

4.2 Post Drill status

Saipem, MODU Scarabeo 8 Rig drilled Bønna structure from July 14, 2013 to October 14, 2013.

7016/2-1 well was completed as a dry hole, none of the prognosed Intra Eocene and Paleocene sandstones were encountered by the well. The well TD has been 4061m MD (4060m TVD - 4026m SSL) within the Late Paleocene of the Sotbakken Group.

No Sandstone reservoirs were encountered and no significant gas shows above background gas were recorded. Only minor gas shows were observed over depth ranges 2730-2745 mRT, 2760-2772 mRT and 3400-3408 mRT probably corresponding to more drillable and porous zones. Gas values throughout the well were very low suggesting the presence of hydrocarbon traces (mainly methane) into the rock matrix.

Prognosis vs actual stratigraphy table is shown in table 2 and displayed in figure 5.

Top Reservoire

TOPS	PROGNOSIS			ACTUAL			Delta AC vs PR (m)
Surface	MD (m)	TVD rt (m)	TVD ssl (m)	MD (m)	TVD rt (m)	TVD ssl (m)	
099 Sea Bottom	1 402	1 402	1 368	1 400	1 400	1 366	-2
217 Plio-Quaternary Unc.	2 997	2 997	2 963	3 091	3 090	3 056	93
239 Base Oligocene Unc.	3 085	3 085	3 051	3 234	3 233	3 199	148
243 Top Reservoir	3 147	3 147	3 113	-	-	-	-
245 Intra Reservoir	3 308	3 308	3 274	-	-	-	-
248 Base Reservoir	3 793	3 793	3 759	-	-	-	-
250 Top Paleocene	4 064	4 064	4 030	3 389	3 388	3 354	-676
Final Well TD	4 134	4 134	4 100	4 061	4 060	4 026	-74
7016/2-1 T2 Bønna sidetrack well kick-off point at 2396m MD							

Table 2: Prognosis vs Actual Stratigrapghy

The Post Drilling main geological mapping is illustrated in the figure 6.

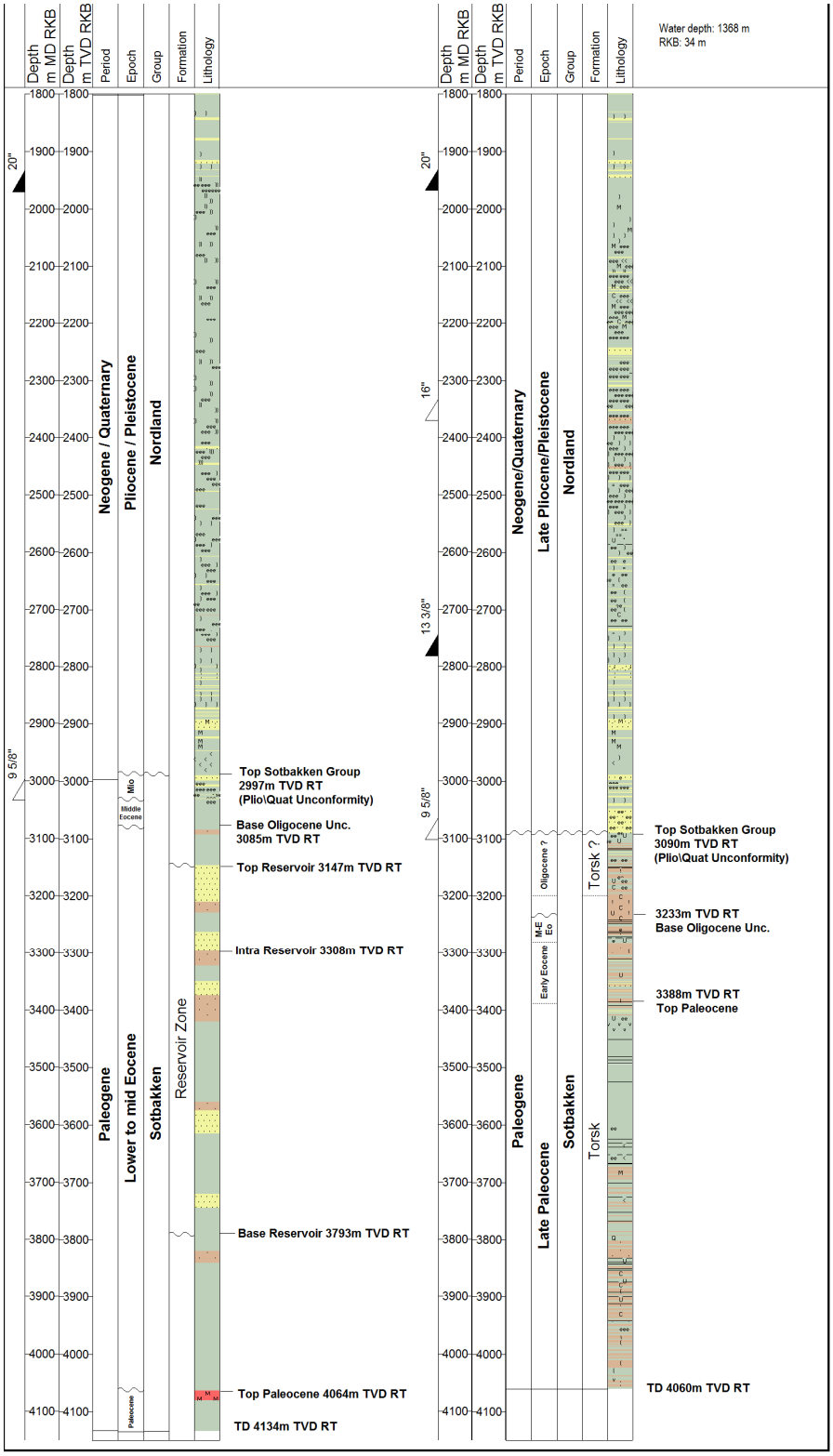


Figure 4: Prognosis vs Actual Stratigraphy

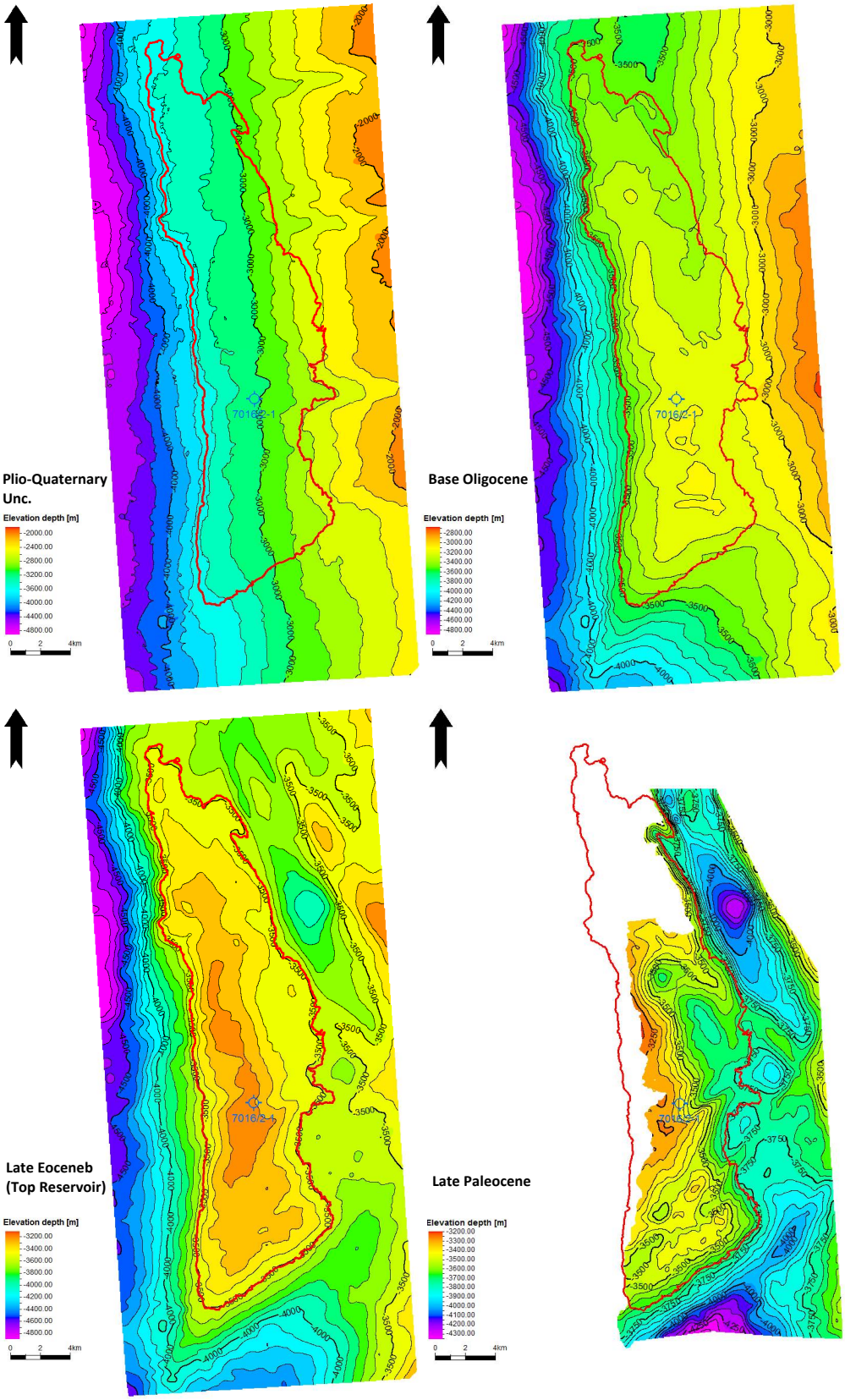


Figure 5: PL529 Post Drill main geological mapping

5. TECHNICAL EVALUATIONS

The Bønna prospect was evaluated to have a good potential for gas. The Pre drill validated OGIP (Pmean) and POS are as follow:

	GOIP (Gm3)				POS
Reservoir	P90	P50	P10	**Mean**	%
Intra Eocene	66.38	142.59	277.5	**161.35**	16

Table 3: Hydrocarbons Initially in Place

No other prospect has been highlighted in the license.

The Bønna structure was the only prospect present in PL529. The remaining potential in the licence was classified as small leads. There are no new inputs after the Bønna well and the updated regional dataset to promote any of the objects to prospect of economic interest. In addition, none of the objects showed any DHI or seismic anomalies.

Eni Norge will, as the Bønna well results that indicate that the Intra Eocene and Paleocene reservoirs are not present in the area of the license, and as there are no any additional prospect in the license, proposes full relinquishment of PL529.

The proposed PL529 relinquishment area vertex coordinates are shown in table 4 and displayed in the figure 7.

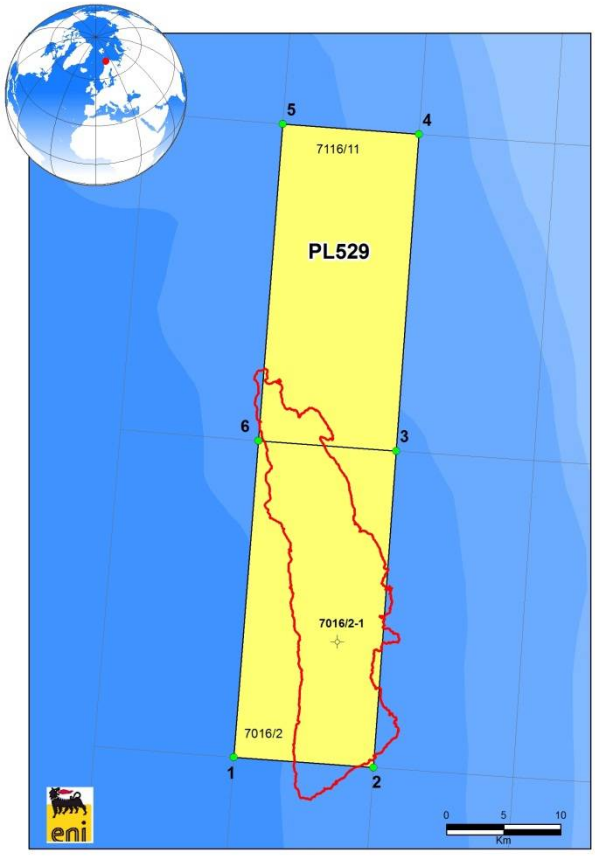


Figure 6: The proposed PL529 relinquishment area and vertex coordinates

No.	Longitude	Latitude	X	Y
1	16° 20' 00" E	70° 45' 00" N	549 061	7 850 264
2	16° 40' 00" E	70° 45' 00" N	561 324	7 850 568
3	16° 40' 00" E	71° 00' 00" N	560 557	7 878 442
4	16° 40' 00" E	71° 15' 00" N	559 790	7 906 317
5	16° 20' 00" E	71° 15' 00" N	547 834	7 906 020
6	16° 20' 00" E	71° 00' 00" N	548 448	7 878 142

Coordinate Reference System: European Datum UTM Zone 33N

Table 4: PL529 relinquishment area vertex coordinates

6. CONCLUSIONS

Eni Norge has revised the technical evaluation of PL529. No other prospectivity is seen in the block area of the license.

The work commitment has been fulfilled including the well 7016/2-1 that was drilled in 2013 and was P&A as a dry well.

Eni Norge recommends on behalf of PL529 to relinquish the license due lack of residual potential.