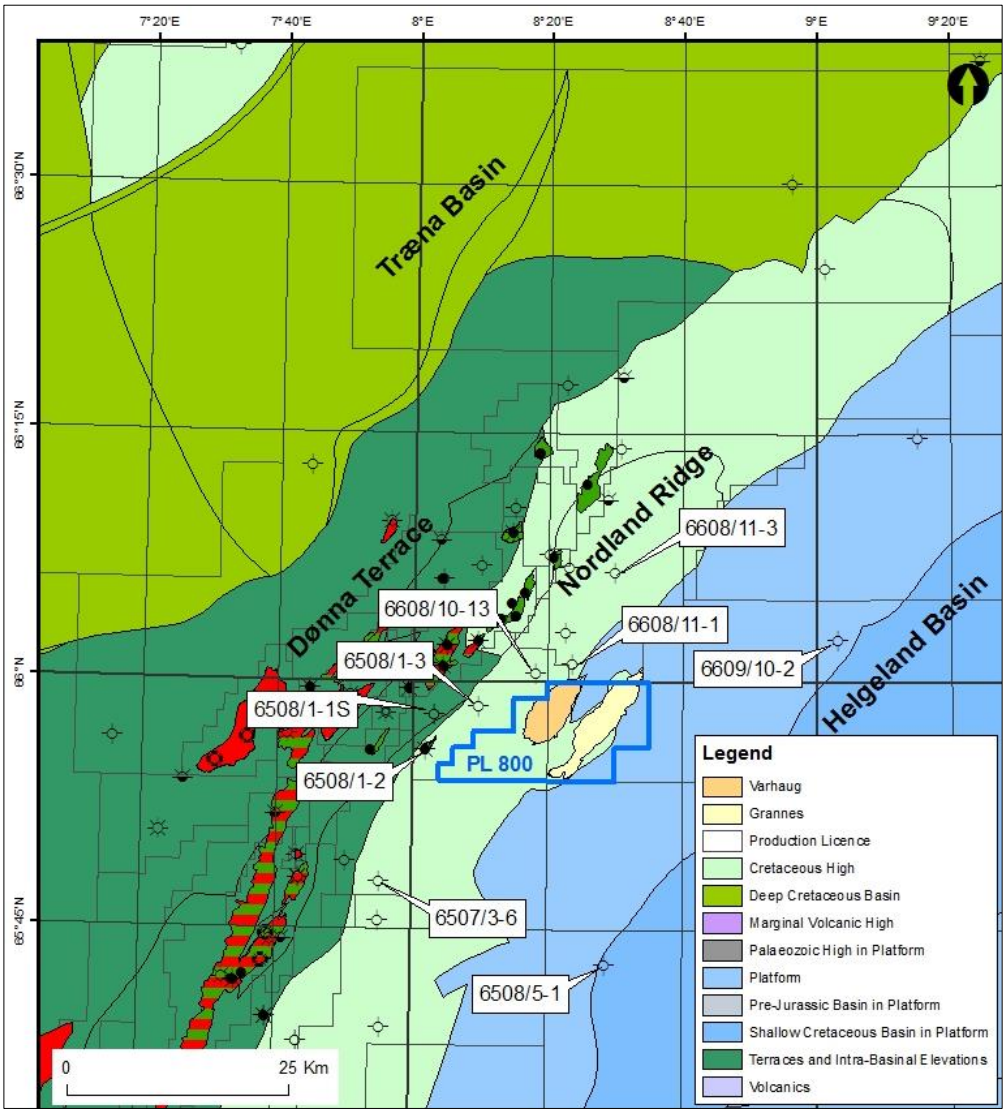
Capricorn Norge AS

PL 800 licence
Full Relinquishment Status Report NPD



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1. History of the Production licence

Licence PL 800, covering part of blocks 6508/1 and 6508/2, is located on the eastern flank of the Nordland Ridge in the Norwegian Sea area, on the Norwegian Continental Shelf (NCS), approximately 200 km west of Brønnøysund. Licence area is 185 km^2. Water depth ranges from approximately 400 m in the north of the licence, increasing to approximately 440 m in the south of the licence.

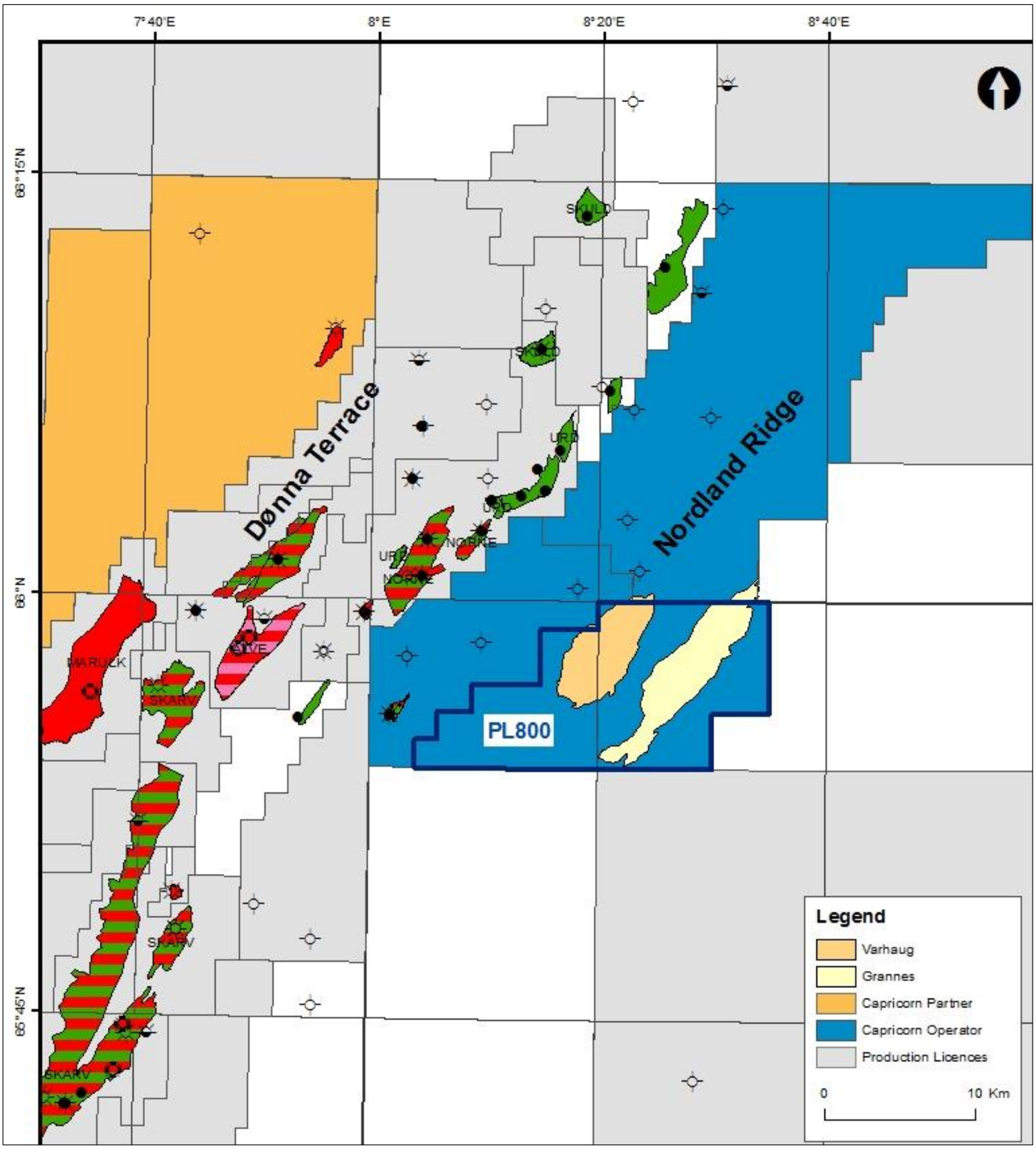


Figure 1.1: PL 800 licence location map with main prospects Grannes and Varhaug indicated on the map.

The licence was awarded as part of the 2014 APA Licensing Round (Award date: 6th February 2015), with the first 2-year term (drill or drop decision) due to expire on 6th February 2017. The drill or drop decision date was then extended to 6th August 2019, and subsequently further extended until 6th February 2020 to await the 6508/1-3 well result, after a drill decision was taken in neighbouring licence PL 758. The firm work programme included reprocessing of 3D seismic data and G&G studies within 2 years, and then proceed to Drill or Drop decision. As

part of this commitment, the licence conducted G&G Studies including Basin Modelling, Rock Physics Studies, and Fault Seal Analysis.

Enquest Norge AS were the initial operator in the licence until they farmed out completely to Lundin Norway AS who became operator, effective on 30th October 2015. Lundin remained operator until 31st October 2017, when they farmed out 15 % of licence equity to Capricorn Norge AS who also became the operator of the licence. From 31st January 2018, operator Capricorn Norge held 50 % equity in the licence, Skagen44 held 30 %, and Lundin held the remaining 20 %.

The Table below summarizes the activity of the licence during the first phase, with a brief description of the ECMC meetings and work meetings held:

Meeting Title	Date	Description
MC Meeting	23/02/2015	First licence meeting to discuss and approve licence set-up and administration, licence Common Database, and discuss initial prospectivity.
ECMC Meeting	07/07/2015	Enquest announce divestment of licence equity, update on seismic reprocessing, update on Induced Polarization survey, budgets, technical presentation by Skagen44.
ECMC Meeting	17/11/2015	Enquest out of the licence, Lundin new operator. Budget status and 2016 budget proposal, Skagen44 presented status of reprocessing of RS1002 data, and status of processing of Induced Polarization survey. Focus on Basin Modelling by Lundin.
Work Meeting	03/05/2016	Geokinetics reprocessing status of RS1002, G&G work status, Petroleum systems modelling
ECMC Meeting	30/11/2016	Seismic reprocessing status (RS1002LNR16), G&G work status including Fault Seal Analysis done by Lundin. Partners agreed to apply for a 6-month extension to the drill or drop decision due to late completion of reprocessing. Licence budget.
ECMC Meeting	27/04/2017	Lundin presented their view on the licence prospectivity, and Skagen44 presented work done on viscosity of the expected oil and the migration story.
ECMC Meeting	20/11/2017	Presentation on prospect G&G, volumetrics, and risking by Capricorn Norge. Presentation on syn-rift geology by Skagen44.
ECMC Meeting	15/06/2018	First EC meeting with Capricorn Norge officially as Operator. Licence status and update of ongoing G&G work on additional licence prospectivity.
Work Meeting	17/10/2018	G&G work meeting to discuss licence prospectivity and Lynghaug follow up potential and PL 800 exploration strategy.
ECMC Meeting	27/11/2018	Update of ongoing licence prospectivity assessment. Proposal and vote in favour of Fault Seal Analysis study.
ECMC Meeting	11/06/2019	Licence status and G&G summary. Preliminary results of Fault Seal Analysis study.
ECMC Meeting	18/11/2019	Final ECMC Meeting summarizing licence prospectivity, volumes and chance of success, and Drill or Drop recommendation.

Table 1.1: Summary of meetings held in PL 800.

Following the last ECMC Meeting, the JV partners decided to surrender PL 800 based on the following points:

- The Lynghaug prospect in PL 758 to the west was drilled dry.
- Prospectivity in PL 800 is very high risk due to lack of charge from the Helgeland Basin.
- There are no seismic indications for hydrocarbons in any of the prospects in PL 800.

2. Database overviews

2.1 Seismic data

As part of the work programme associated to the first phase, the RS1002 3D seismic dataset was reprocessed by Geokinetics. The reprocessing continued to be overseen by Lundin, after Lundin took over operatorship, and the final product was called the RS1002LNR16 3D dataset. The main aim of the reprocessing in the licence was to investigate and remove multiple effects in the data. The RS1002LNR16 dataset was then reprocessed by Capricorn Norge in 20017 to create the CAP17M01 dataset in a bid to remove more multiples and better understand the AVO effects observed in the area. CAP19M01 was an extension of the CAP17M01 reprocessing to the south in order to cover the southern limit of the Grannes prospect and the Lervig lead.

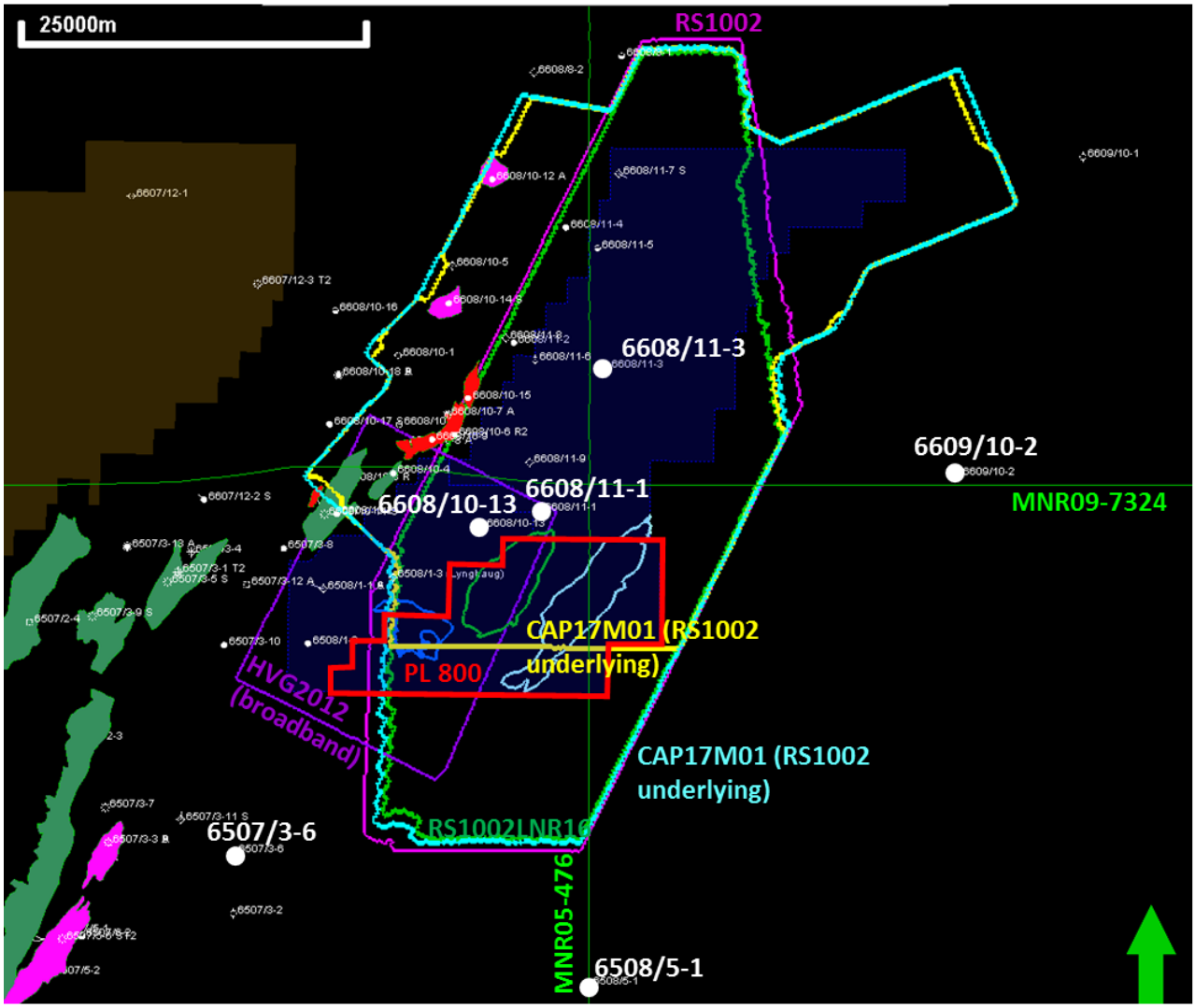


Figure 2.1: PL 800 seismic database

The Table below summarizes the seismic database used for PL 800 licence

Survey Name	Type Data: 2D/3D	Acq. year	Proc. Year	Public/Multiclient	NPDID
HVG2012M	3D seismic	2012	2013	Multiclient (PGS)	7616
RS1002	3D seismic	2010	2011	Released	7188
RS1002LNR	3D seismic	2010	2016	PL 758/PL 800	-
CAP17M01	3D seismic	2010	2017	PL 842	-
CAP19M01	3D seismic	2010	2019	PL 758/PL 800	-
MNR05	2D seismic	2005	2005	Multiclient (TGS)	4298
MNR09	2D seismic	2009	2009	Multiclient (TGS)	7001

Table 2.1: PL 800 Seismic Database

2.2 Well data

No exploration wells have been drilled in the PL 800 licence. The table below shows only the wells used for the technical evaluation and these were included in the common database.

Well Name	Year	TD (depth m TVDSS), Formation, Age	Status
6508/1-3	2019	1663 m, Åre Fm., Lower Jurassic	Not Released
6508/1-2	2011	1770 m, Tilje Fm., Lower Jurassic	Released
6608/10-13	2009	1420 m, Åre Fm., Lower Jurassic	Released
6609/10-2	2009	2499 m, 'Grey Beds', Upper Triassic	Released
6508/5-1	1987	2564 m, 'Red Beds', Upper Triassic	Public
6608/11-1	1986	1595 m, 'Grey Beds', Upper Triassic	Public
6608/11-3	2002	2007 m, 'Grey Beds', Upper Triassic	Released
6507/6-3	2009	1625 m, Åre Fm., Lower Jurassic	Released

Table 2.2: PL 800 Well Database listed in order of relevance to the licence G&G work.

3. Results from geological and geophysical studies

The PL 800 licence partnership performed several geological and geophysical studies. Brief descriptions of these studies, together with the results, are listed below:

1. Reprocess 3D seismic data across the PL 800 area as per the work programme for the licence, 2016, 2017.

- Objectives:
  - Improve prospect and lead definition within the licence.
  - Evaluate AVO effects observed in the seismic dataset.
  - Remove multiple effects in the data.
- Results:
  - Better structural definition and ability to perform AVO studies.
  - Reprocessing enabled understanding and removal of multiple energy in the dataset.

2. Reservoir characterisation and Petrophysical Studies (Capricorn study), 2018

- Objectives:
  - Understand the reservoir properties used in the volume calculation for the main prospect and leads.
- Results:
  - Full reservoir information from all relevant offset wells: NTG, porosity, saturation etc.
  - Good reservoir properties expected for the Lower to Middle Jurassic reservoirs in the Varhaug and Grannes prospects.

3. Rock Physics Study (Capricorn study), 2018

- Objectives:
  - Produce and scan AVO attributes to identify potential DHIs in the Grannes and Varhaug prospects.
  - Model reservoir seismic response in surrounding wells, evaluate the visibility of a potential oil-water contact and the impact of variations on seismic response within the Lower to Middle Jurassic reservoir package.
- Results:
  - No AVO attributes in support of an oil column or gas cap in Grannes or Varhaug were identified.
  - Proposed flat-events are most likely seabed and peg-leg multiples that haven't been properly removed.
  - Modelling of seismic response associated with oil, gas, and brine fill in an onlapping wedge of Åre, Tilje, and Ile formation stratigraphy, showed that it was possible that an oil-water contact could be visible if the oil was of similar quality to that found in Skaugumsåsen, however it would be weak and unlikely visible on the real seismic data.
  - The basin modelling suggests that the source rocks are over mature which should mean that there would be a high likelihood of gas in the prospects. Rock physics modelling shows that a gas-water contact should be clearly visible on the 3D seismic data. There is no evidence for a robust anomaly on the seismic data suggesting that there has been no hydrocarbon charge to the prospects.

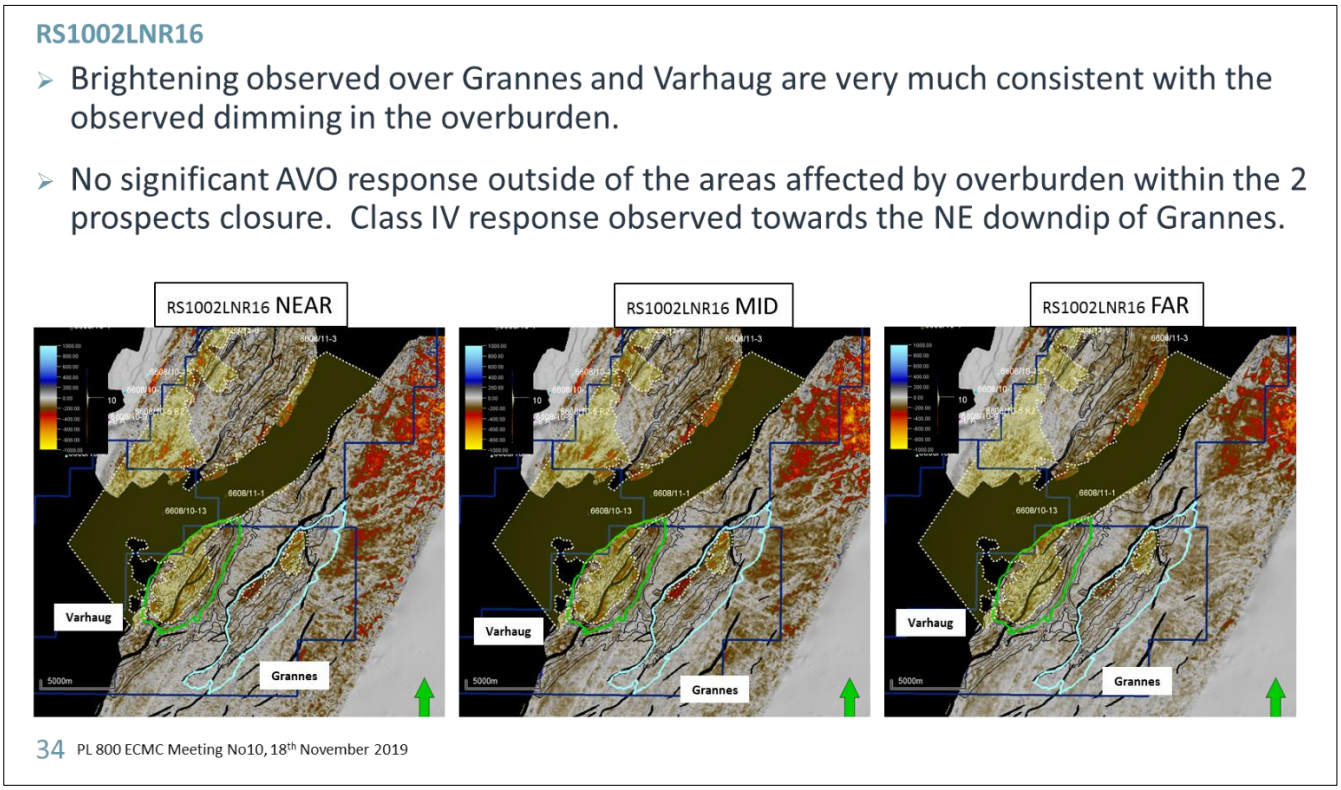


Figure 3.1: Amplitude Vs Offset response at top Tilje Formation level in PL 800. The only anomalies observed are directly related to dimming observed in the overburden.

4. Petroleum System Modelling, 2019

- Objectives:
  - Model the migration toward the Grannes and Varhaug prospects.
  - Quantify the amount of hydrocarbon generated in the kitchen areas adjacent to the licence.
- Results:
  - Model showed that charge into the licence area is highly unlikely.
  - Jurassic Spekk Fm. is immature.
  - Jurassic Åre Fm. coals are immature within the drainage area of the PL 800 prospects.
  - A speculative source rock within the Permian, based on an analogue to the Ravnefjeld Formation source rock in Greenland, was modelled but found to have reached peak maturity and expulsion long before emplacement of the Jurassic reservoirs.
  - Unroofing of the Grannes prospect during the early Cretaceous, together with a long period of time with very little overburden throughout the area, suggests that there is a significant risk of biodegradation of any oil that was emplaced during the Jurassic.

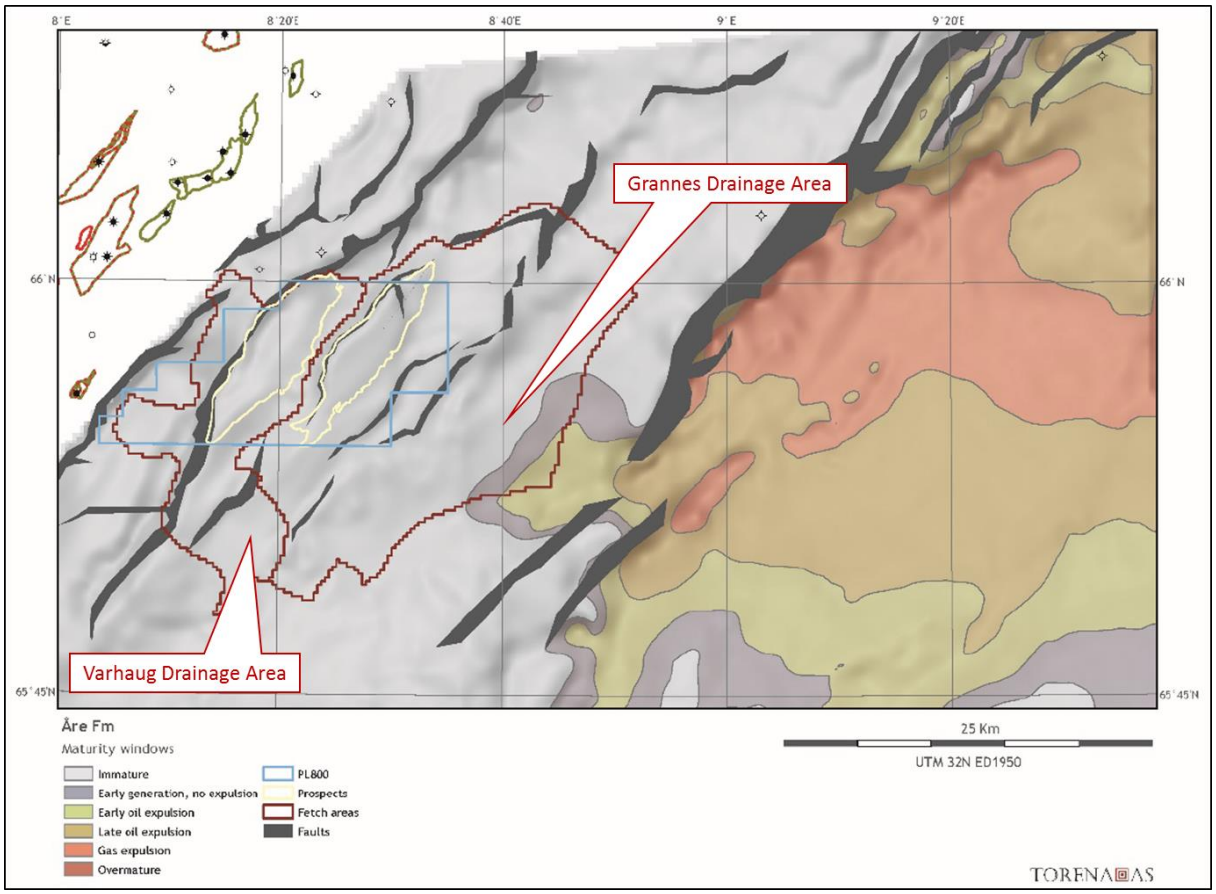


Figure 3.2: Present Day Maturity Map for the Åre Formation coals.

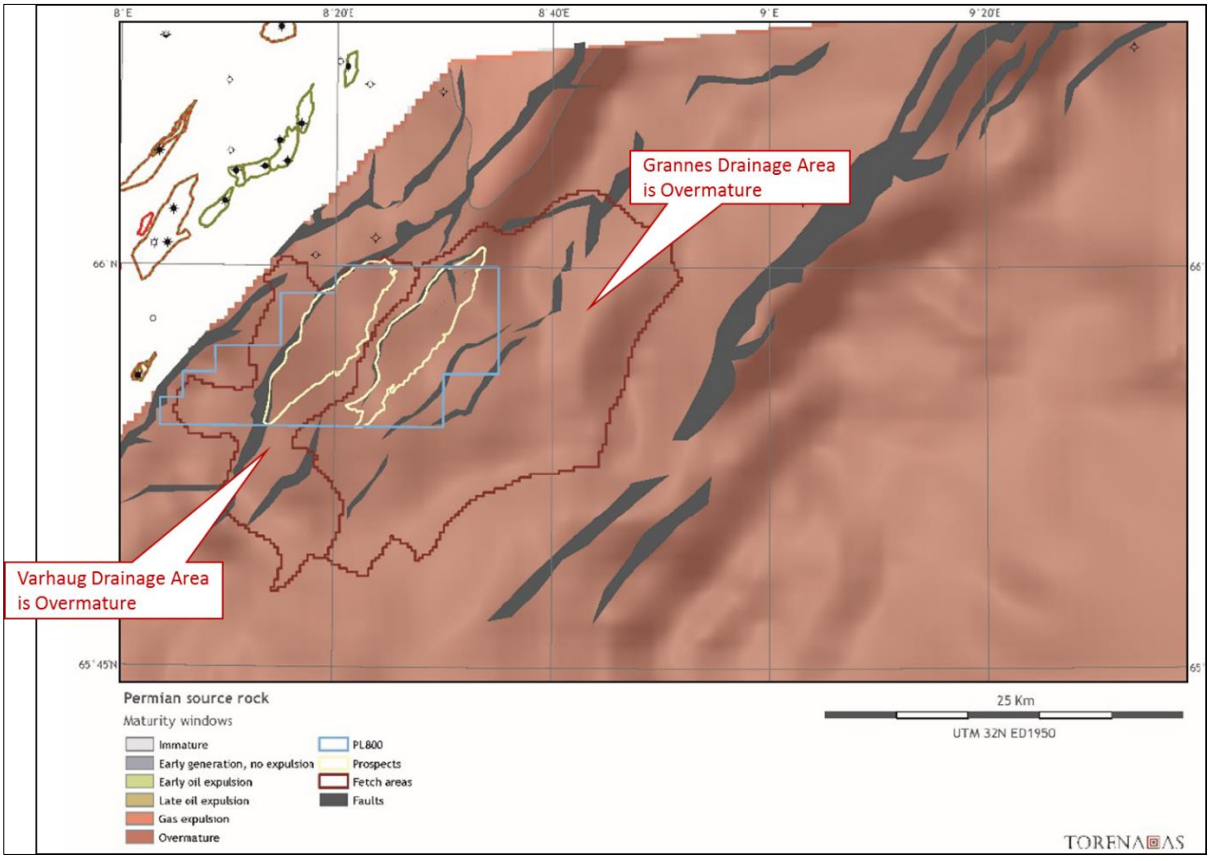


Figure 3.3: Present Day Maturity Map for a speculative Permian source rock.

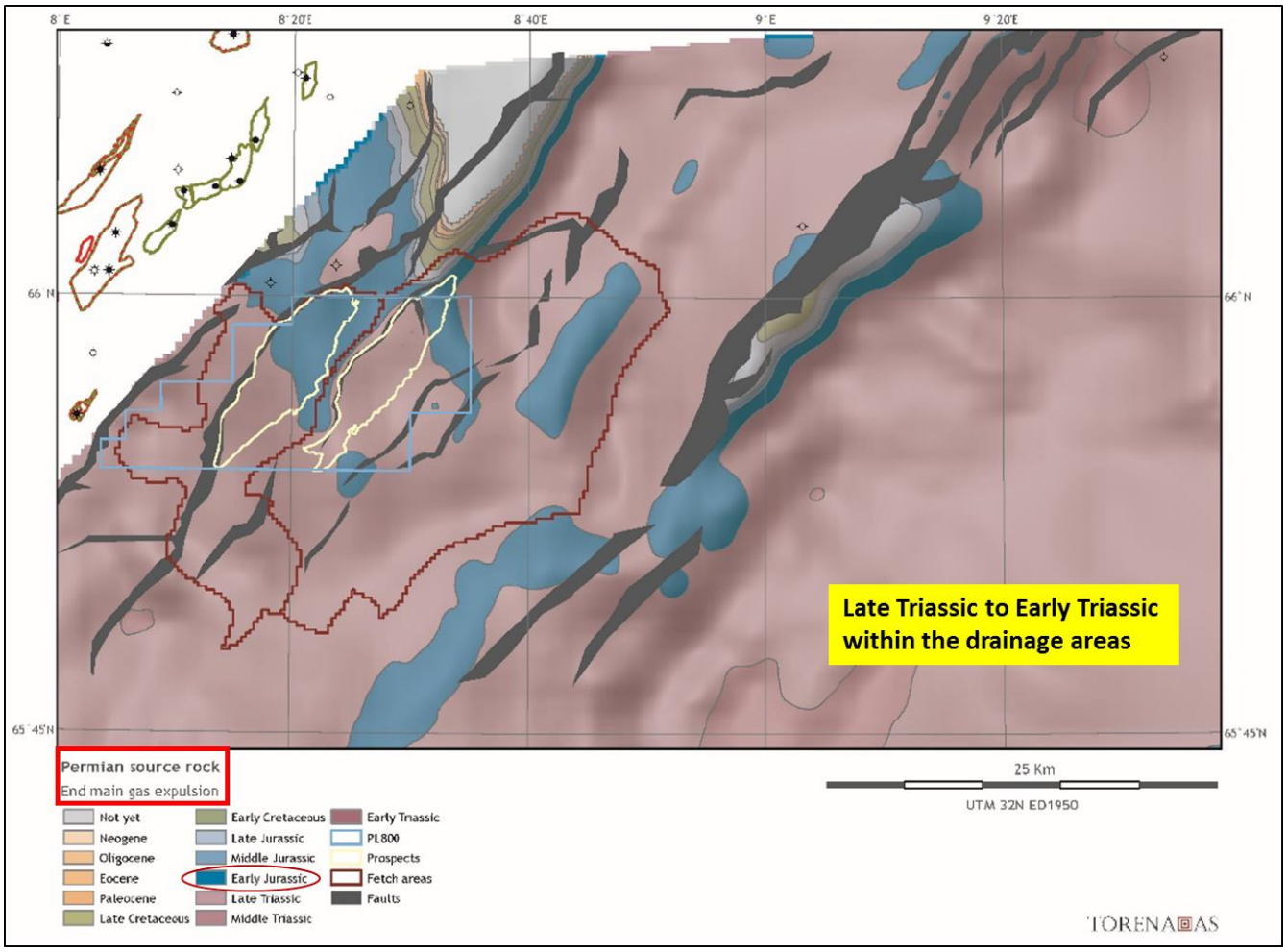


Figure 3.4: Timing for End of Gas Expulsion from a speculative Permian source rock in the Helgeland Basin.

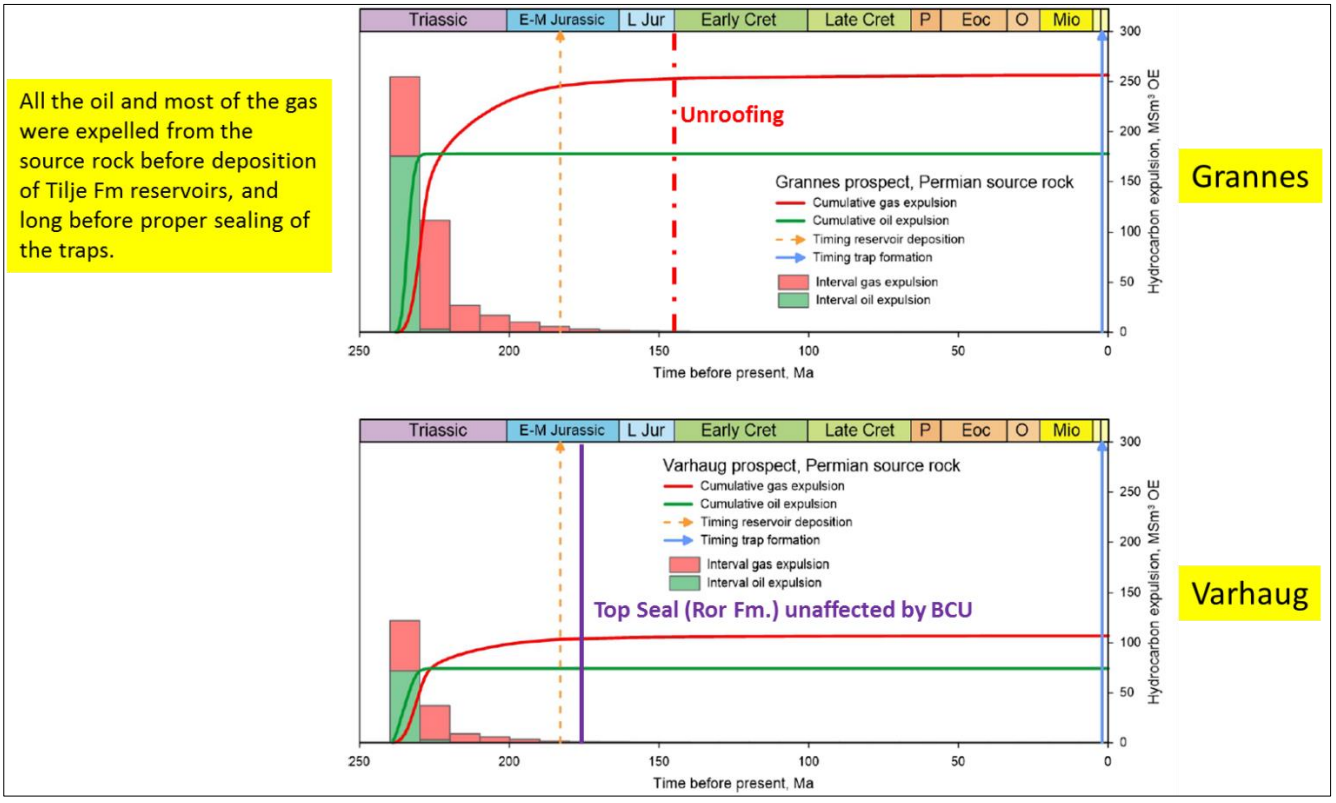


Figure 3.5: Timing of Oil and Gas Expulsion from a speculative Permian source rock in the PL 800 fetch areas.

5. Fault Seal Analysis (Badley Geoscience), 2019

- Objectives:
  - Investigate the potential for sealing faults at reservoir levels in PL 758 and PL 800.
  - Understand potential migration pathway in the event of a discovery in well 6508/1-3.
  - Understand the sealing potential of the main bounding fault on the Lynghaug prospect, and the potential for migration further up dip and to the east in the case of a discovery in well 6508/1-3.
- Results:
  - All faults studied were found to have a high potential for sealing and retaining a significant hydrocarbon column in Lower to Middle Jurassic reservoirs in the PL 758 area, which had negative implications for the possibility of charging PL 800 prospects from the west.

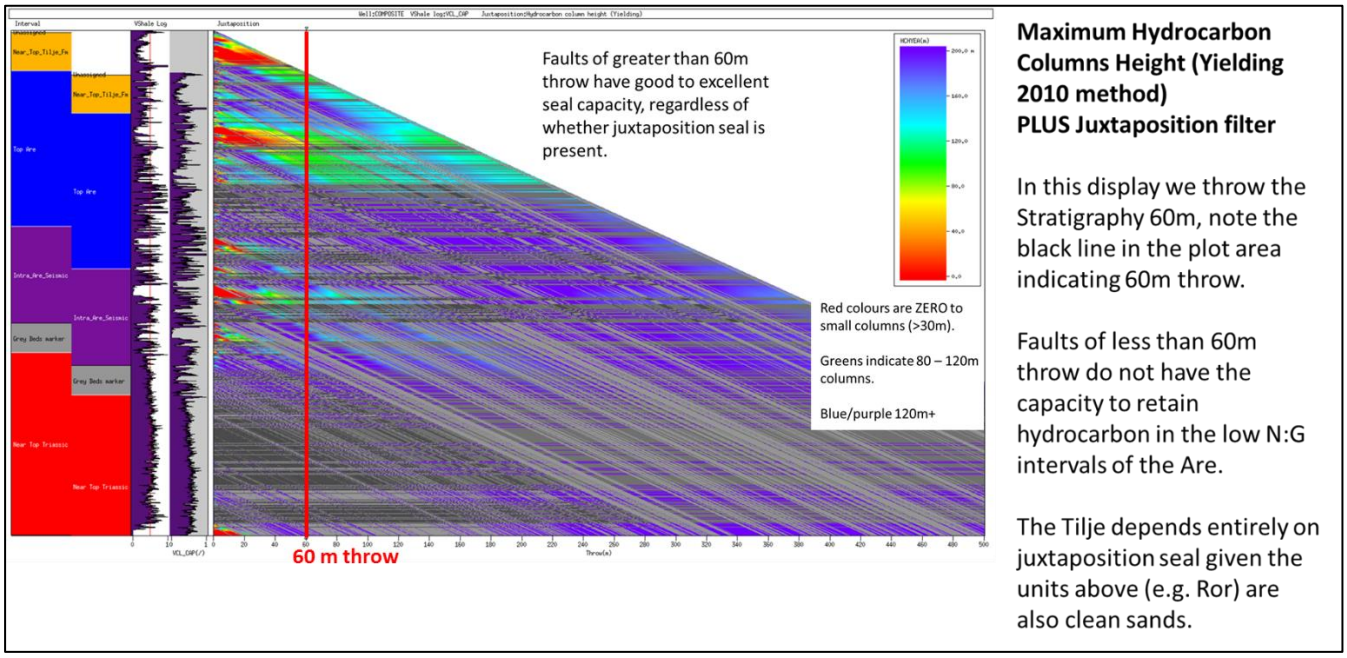


Figure 3.6: Triangle diagram from Badley Geoscience that was produced using a pseudo-well that was constructed from sections of wells 6508/1-2, 6608/10-13, 6608/11-1, 6608/11-3. Results show that a fault with a throw of more than 60 m at Åre Formation level is expected to seal.

6. Integration of PL 758 Well 6508/1-3 (Lynghaug) VSP into Study of Multiples and Data Balancing for CAP17M01 in PL 800, 2019

- Objectives:
  - Understand the wavelet for input to study of seismic multiples in the area.
  - Understand the overall balancing of the dataset and subsequently the AVO effect.
- Results:
  - Identified several strong multiples in the area and confirmed that the flat events observed in the data are likely to be peg-leg multiples.
  - Demonstrated that the CAP17M01 data is not correctly balanced and when corrected it was found that there are no convincing AVO anomalies that might otherwise indicate hydrocarbons in the prospects.

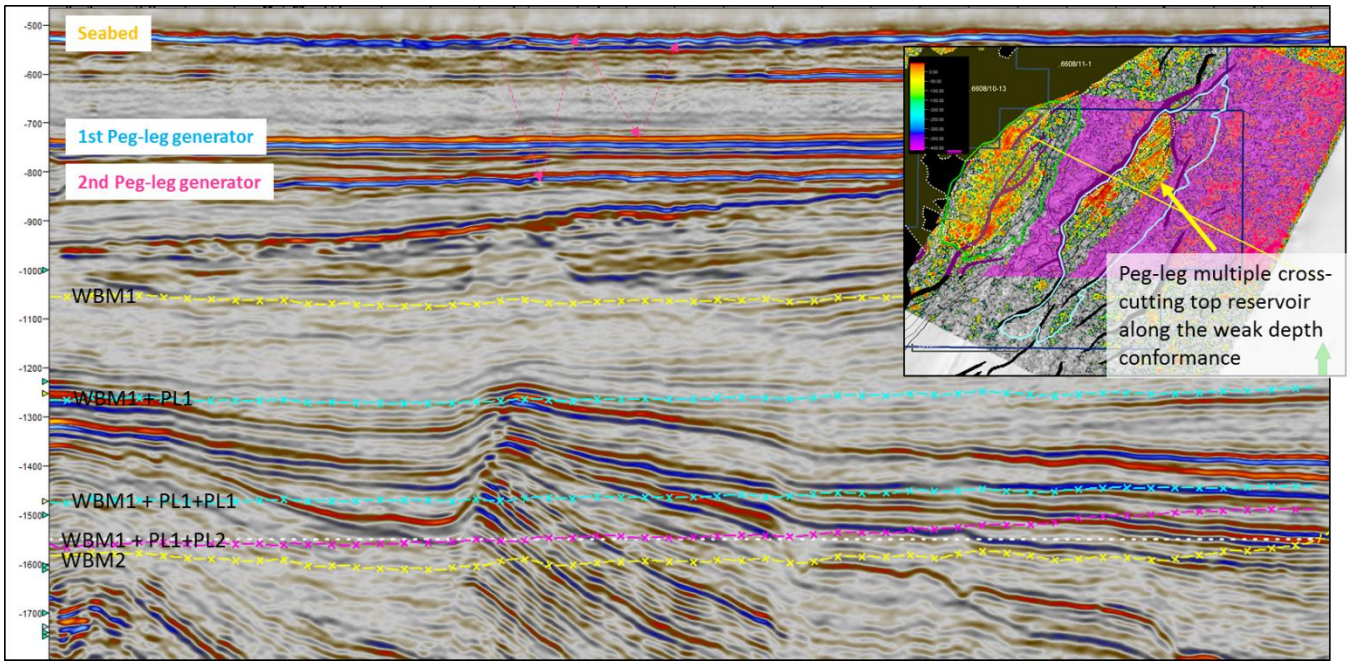


Figure 3.7: Flat Events observed in the seismic data are likely caused by Peg-leg Multiples.

4. Prospect update report

Varhaug Prospect

The main prospect identified in the 2014 APA Licencing Round was named Varhaug. The Varhaug prospect is a fault bound 3-way dip closure in the hangingwall of a large displacement NE-SW oriented normal fault. The reservoir is comprised of Tilje Formation and Åre Formation sandstones. Melke Formation mudstones form the top seal. Figure 4.1 below shows the PL 800 prospects at the application stage.

The initial charge model for the Varhaug prospect at licence application was a fill-spill migration model from the west through the PL 758 licence prospects. However, the lack of shows in PL 758 well 6508/1-3 (Lynghaug) disproves this model and suggests a lack of charge to the prospects up dip from the Skaugumsåsen (well 6508/1-2) discovery. Furthermore, due to the highly sealing nature of the main bounding fault, the Varhaug prospect relies on charge from the Helgeland Basin to the east.

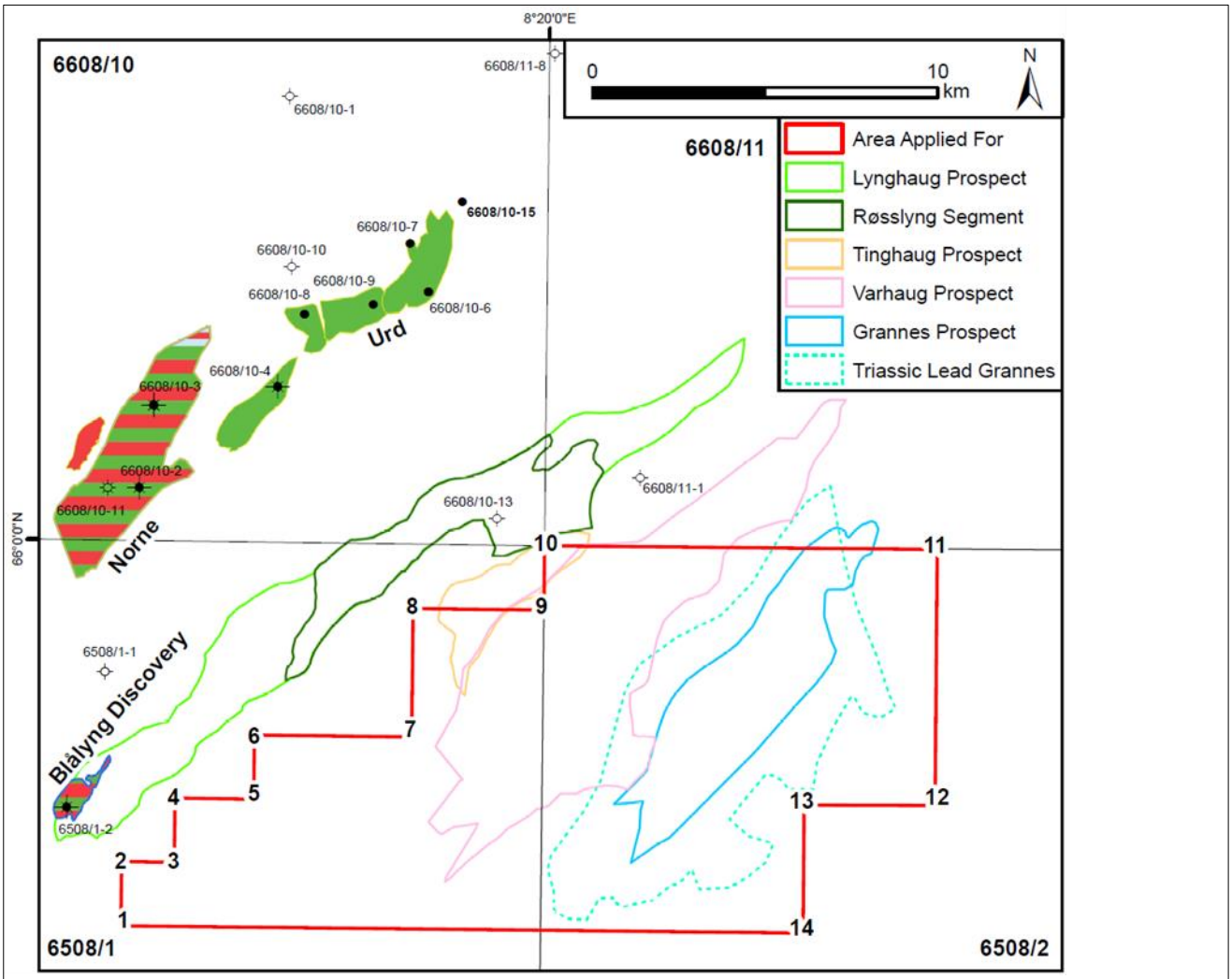
An alternative charge model based on potential Permian source rocks in the Helgeland Basin, east of PL 800, was therefore proposed. However, following a basin modelling study of the Helgeland Basin, the chance of charge to Varhaug was decreased from 30 % to 10 %, which in turn reduced the overall geological chance of success (Pg) of the prospect to just 4 %. In additional there is a considerable risk of Varhaug being in a migration shadow of the Grannes prospect, which may have to be full to spill in order to allow migration westwards into the Varhaug prospect. Due to the relatively shallow depth of the prospect there is also a significant risk of biodegradation of any eventual hydrocarbons in the reservoir.

Figure 4.2 and Figure 4.3 show a seismic depth map and a seismic inline through the Varhaug prospect.

At the start of the licence, recoverable volumes for the Varhaug prospect had the following range: 128 - 196 - 271 million Sm^3 (P90-Mean-P10). The overall Chance of Success (Pg) for the Varhaug prospect was 16 %, with Reservoir (90 %), Trap (50 %), Charge (45 %), and Retention (80 %).

Volumetric calculation using reservoir parameters constrained by data from the offset wells significantly reduces the volume in the prospect and yield a final P90 – P10 range of recoverable resources of 6.4 – 58.5 million Sm^3, with a Mean case of 29.9 million Sm^3.

The geological probability of success was reduced to 4 % - Reservoir (100 %), Trap (90 %), Charge (5 %), and Retention (90 %). The risk that was previously on trap, due to uncertainty around fault seal on the main bounding fault has been reduced. However, there is now significantly more risk attributed to migration timing under the Charge risk parameter.



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)						
Tinghaug	P	Oil	19.00	30.20	43.10	0.52	1.19	1.99	0.17	33.0	Åre Fm / Lower Jurassic	1220	Norne	10
Varhaug	P	Oil	128.00	196.50	271.00	4.23	7.68	11.60	0.16	89.3	Ile, Tilje, Åre fms / Lower Jurassic	1270	Norne	15
Grannes	P	Oil	63.90	99.20	137.80	2.20	3.88	5.79	0.09	98.5	Ile, Tilje, Åre fms / Lower Jurassic	1290	Norne	20
Grannes Triassic	L	Oil								97.0	Triassic fms / Triassic	1860	Norne	20
Greater Lynghaug	P	Oil	48.20	282.80	464.20	1.90	11.10	18.90	0.19		Ile, Tilje, Åre fms / Lower Jurassic	1220	Norne	15

Figure 4.1: PL 800 prospect assessment at the start of the licence.

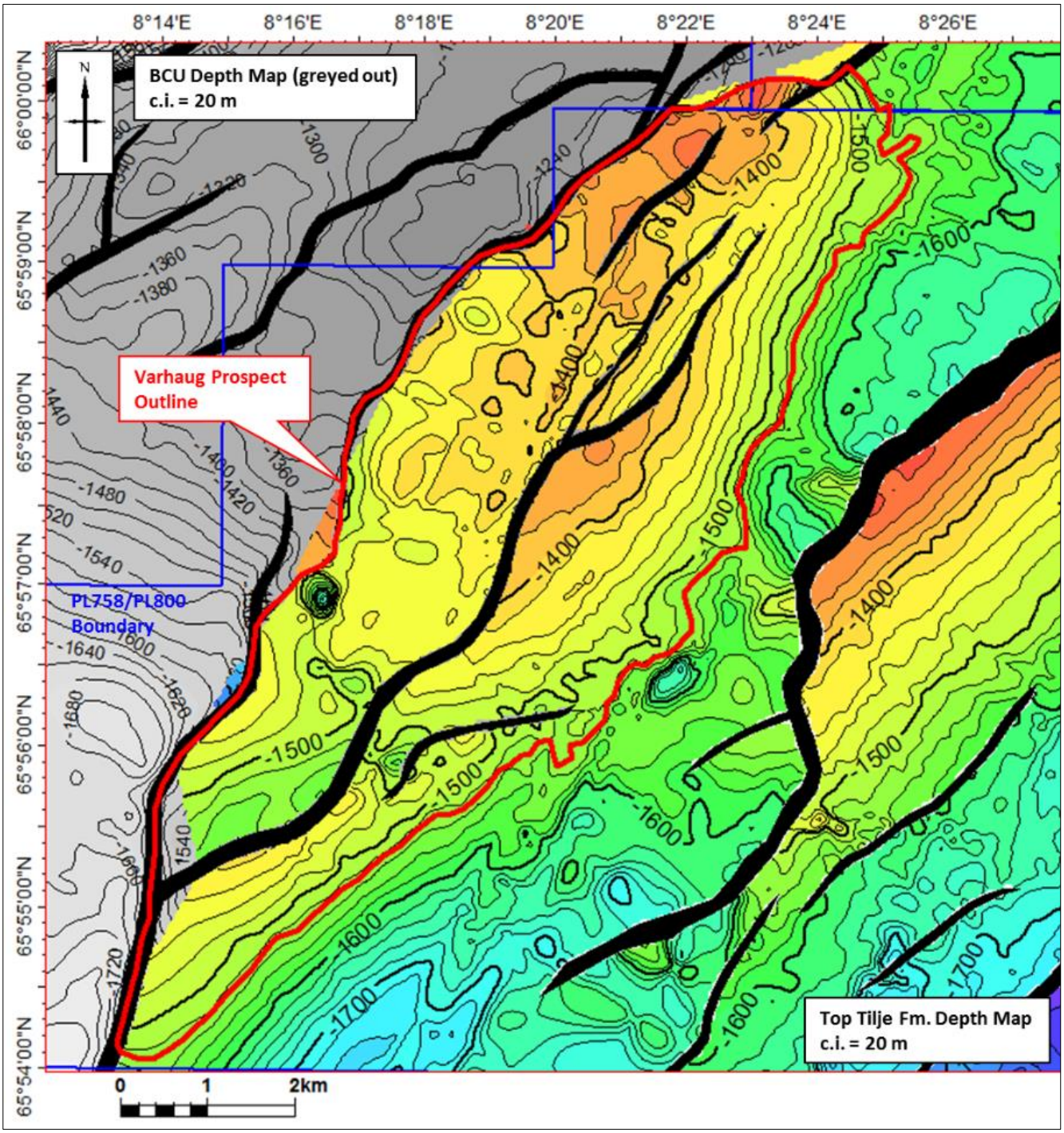


Figure 4.2: Top Tilje Formation Depth Map (in colour) with the outline of the Varhaug Prospect. Contour Interval is 20 m. The BCU depth map (grey colours) indicates where the Tilje Fm. is eroded in the footwall of the Varhaug prospect main bounding fault.

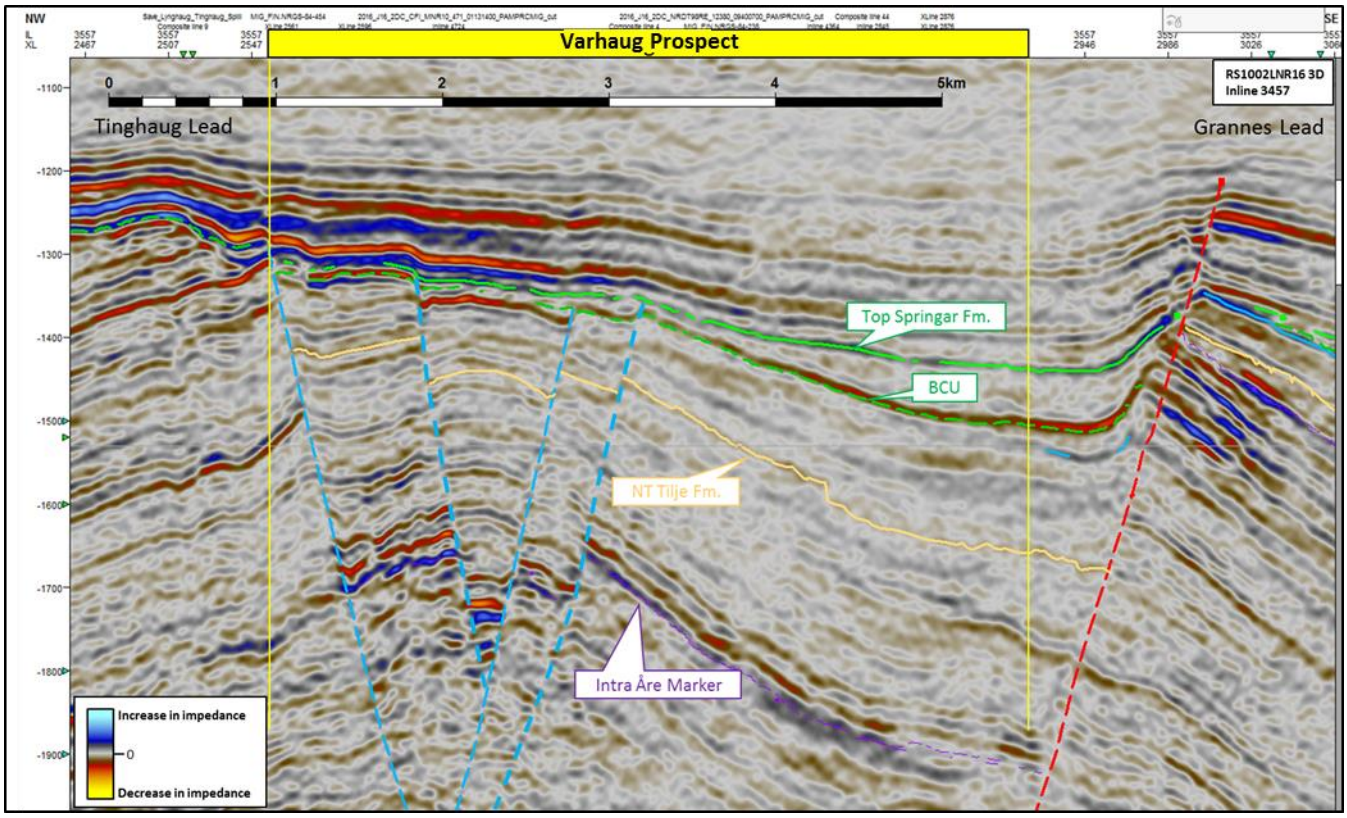


Figure 4.3: Seismic Inline 3457 (RS1002LNR16) through the Varhaug prospect. Line location is shown in Figure 4.4.

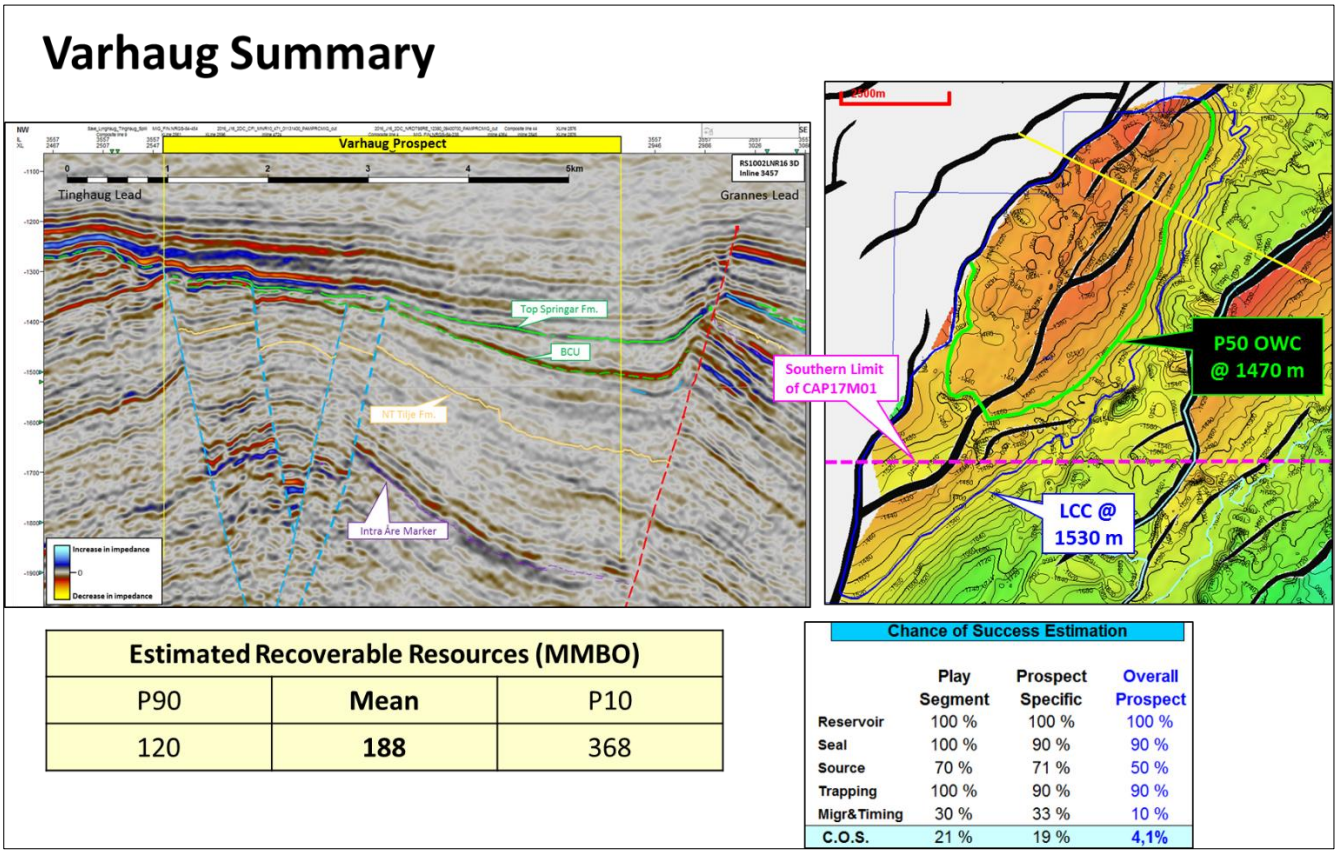


Figure 4.4: Varhaug Summary from the final PL 800 EC/MC Meeting. Lowest Closing Contour (LCC) at 1530 m is shown on the map.

Grannes Prospect

The Grannes prospect is well defined on the licence 3D seismic data (RS1002LN16) as a tilted fault block defined by a large displacement normal fault to the west with a three-way dip closure to the east at Middle Jurassic to Upper Triassic Båt and Fangst Group level. The reservoirs were deposited in coastal plain fluvial to shallow marine environments.

Early in the licence it was modelled that the PL 800 structures may receive charge from the west via fill-spill from prospects in PL 758. The source rock expected was the Upper Jurassic organic-rich shales of the Spekk Formation (analogue to the Skaugumsåsen discovery). To the east of PL 800, in the Helgeland Basin, the Spekk Formation is immature. However, it was proposed that a speculative Permian source rock in the Helgeland Basin, analogous to the Ravnefjeld Formation source rock in Greenland, could have charged the PL 800 prospects. The top seal is provided by Paleocene mudstones of the Tang Formation.

The key risk is the ability to migrate hydrocarbons from the west through the multiple sealing faults of the Nordland Ridge and into the PL 800 prospects, or from unproven Permian source rocks to the east.

At the start of the licence, recoverable volumes for the Grannes prospect had the following range: 64 – 99 - 138 million Sm^3 (P90-Mean-P10). The overall Chance of Success (Pg) for the Grannes prospect was 9 %, with Reservoir (90 %), Trap (50 %), Charge (25 %), and Retention (80 %).

The 3D seismic does not show any DHIs (e.g. amplitude/AVO anomaly with conformance to structure, flat spot), which may be expected for gas in such good reservoir (6508/1-2 Skaugumsåsen gas analogue).

Basin modelling indicates that the Grannes and Varhaug prospects are charge constrained due to the Permian being the only potential source rock mature within the drainage area of the prospects. However, any potential Permian source rocks would have expelled all their hydrocarbons before deposition of the Lower Jurassic reservoirs as presented in Figure 3.5.

The CPI studies from offset wells for the Åre and Tilje reservoirs confirmed the reservoir parameters used in the Grannes assessment summarized in the Prospect Summary table attached in Appendix A.

The Final assessment of the Grannes prospect yields a P90 to P10 range of recoverable volumes of 6.7 to 56 million Sm^3, with a Mean case recoverable oil volume of 28 million Sm^3. The geological probability of success was reduced to 4 % - Reservoir (100 %), Trap (80 %), Charge (5 %), and Retention (90 %). The risk that was previously on trap due to erosion below the BCU at the crest is now attributed to migration timing under the Charge risk parameter.

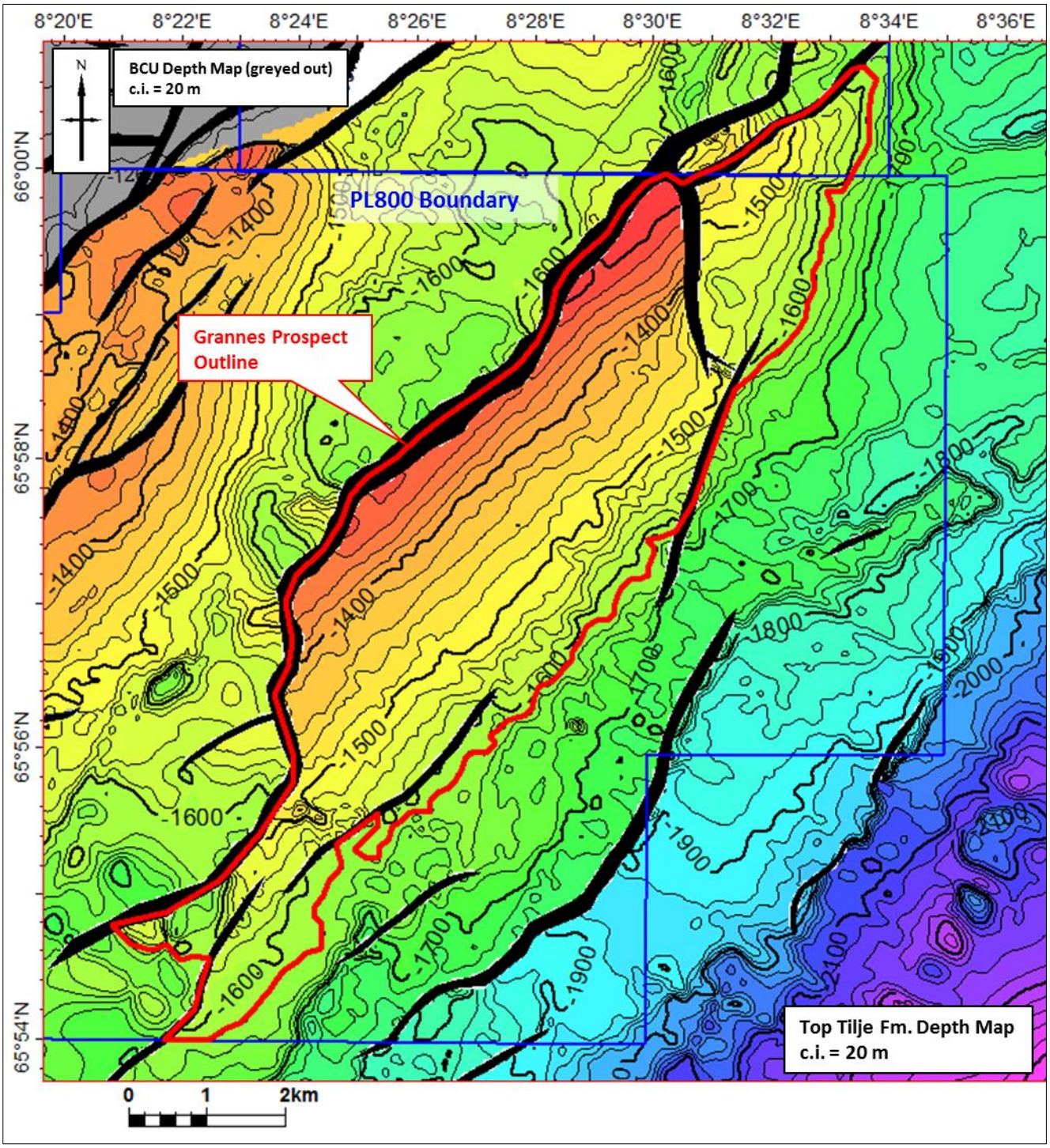


Figure 4.5: Depth structure map at Near Top Tilje Formation level illustrating the Grannes Prospect trap.

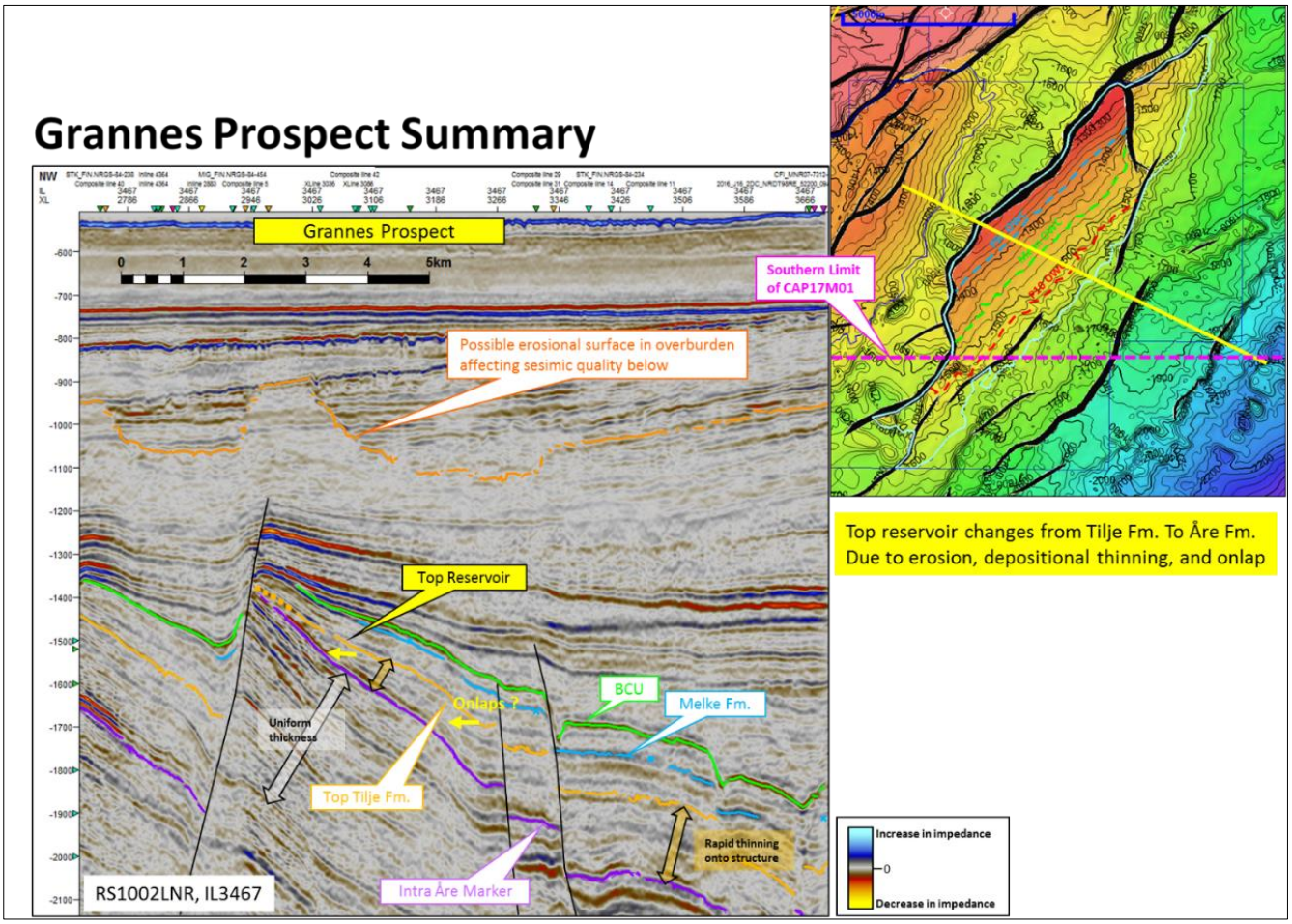


Figure 4.6: Grannes prospect assessment at the drill or drop stage. There is a very thin succession of Cretaceous sediments across the crest of the structure, compromising seal integrity until deposition of the Paleocene succession.

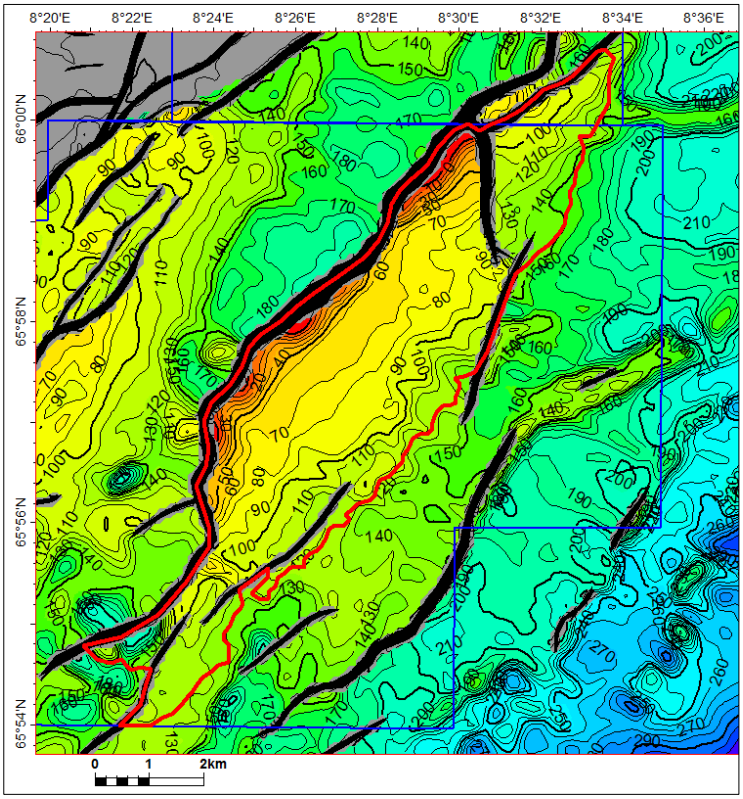


Figure 4.7: Isopach map of BCU to Tilje interval over Grannes showing that erosion at the BCU compromised the top of the Tilje Formation reservoir in the Lower Cretaceous.

4.1 Additional Remaining Prospectivity

In addition to the main Varhaug and Grannes prospects, all stratigraphic intervals were studied, in order to fully evaluate the prospectivity in PL 800. The Triassic Red Beds described as a possible reservoir concept in the original APA 2014 application are not described here, as reservoir quality is likely to be extremely poor at that level. That combined with the very low chance of success for charge brings the risk on potential leads at that level down to less than 2% and therefore this is not considered a viable concept. A summary map showing all prospects and leads in the licence can be found in Section 8: Conclusion.

Lervig Lead

The Lervig lead directly overlies the down dip part of the Tasta prospect. The lead lies predominantly in PL 800, however, as the crest lies in PL 758, it is described in the Relinquishment Report for both licences. The reservoir model comprises of shallow marine Rogn Formation sandstone reworked from uplifted Lower to Middle Jurassic sediments to the north. The potential reservoir sands are contained within Spekk Formation shales and are identified as a bright negative impedance reflector on the 3D seismic data. On the HVG2012M 3D seismic dataset, this reflector has a Class IV AVO response in line with that expected for an organic rich shale. However, on the CAP17M01 reprocessed dataset a Class II/III AVO response is observed. This is similar to the response observed on the Godalen prospect in PL 842, where no reservoir was encountered (only Spekk Formation shales). The CAP17M01 processing sequence was extended further to the south on the RS1002 data in order to capture more of the Lervig lead. A simple near vs far amplitude map panel is presented in Figure 6.7 below where brightening of the soft amplitude is observed on the far offset data.

This lead was a potential follow up to a discovery in the Godalen prospect, drilled in PL 842 to the north. Calibration to the Godalen well shows that the seismic response in Lervig is highly likely to be a Class IV shale response as observed on the MC3D-HVG2012M dataset. The primary reason for the Class II/III AVO effect observed on the CAP17M01 and CAP19M01 datasets is a problem with the offset amplitude balancing of the data. When compared to the AVO response modelled from offset wells 6608/10-13 and 6608/11-1, the HVG2012M data has the most consistent response.

The dry well in Lynghaug increased the risk on charge to the Lervig lead as it was dependent upon leakage from a column retained in Lynghaug through the main bounding fault into the Lervig lead. The absence of reservoir in well 6608/11-9 (Godalen), together with seismic calibration using the data from that well has increased the risk on reservoir presence in the Lervig lead. This lowers the overall chance of success to 4 %. Volumetric calculation for the Lervig lead yields a P90 – P10 range of recoverable resources of 2.4 – 10.5 million Sm^3, with a Mean case volume of 6.0 million Sm^3 recoverable oil.

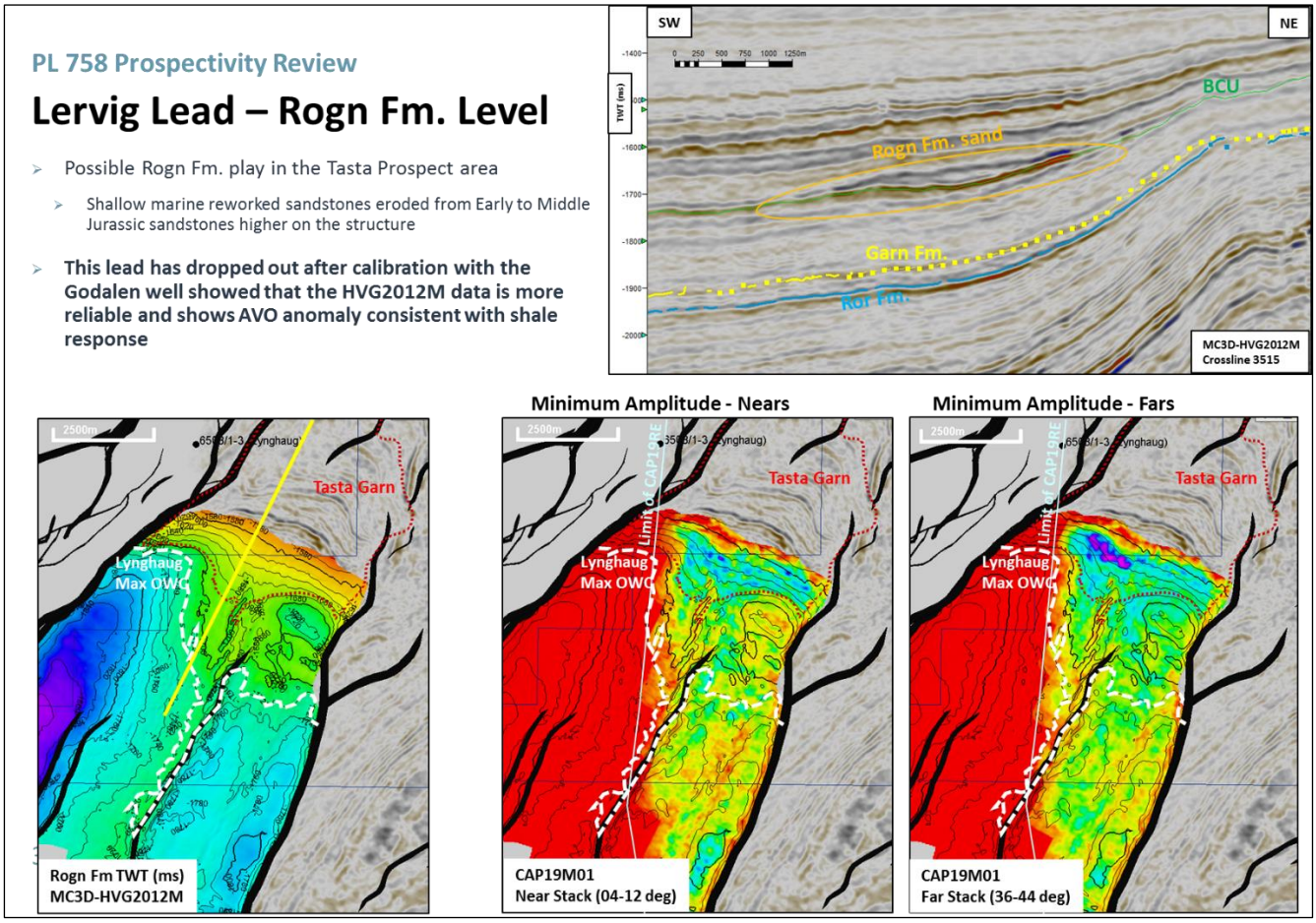


Figure 6.6: Composite panel illustrating the Lervig Lead. Seismic line shows Full Offset data from MC3D-HVG2012M.

5. Technical evaluation

Initially the anticipated development scenario for PL 800 was to tie back to the Norne facilities. The minimum economical field size for a tie-back development to the Norne facilities for a PL 800 discovery is estimated to be 6.4 million Sm^3. Both the Grannes and Varhaug prospects have a chance of success of 4 %, with Varhaug having a slightly larger Mean recoverable oil volume of 30 million Sm^3. Although it is possible that the volumes are large enough to consider a Stand-Alone Development, the geological risk of 4 % or less on PL 800 prospects and leads is considered too high, and therefore no further development concept studies have been therefore carried out.

6. Conclusion

The geological and geophysical work performed in the licence demonstrates that the prospects in PL 800 are charge constrained.

The PL 800 JV partners have decided to relinquish the licence based mainly on the very high risk assessed for the remaining prospectivity in the licence.

Figure 8.1 below shows a map of the prospects and the leads identified in PL 800.

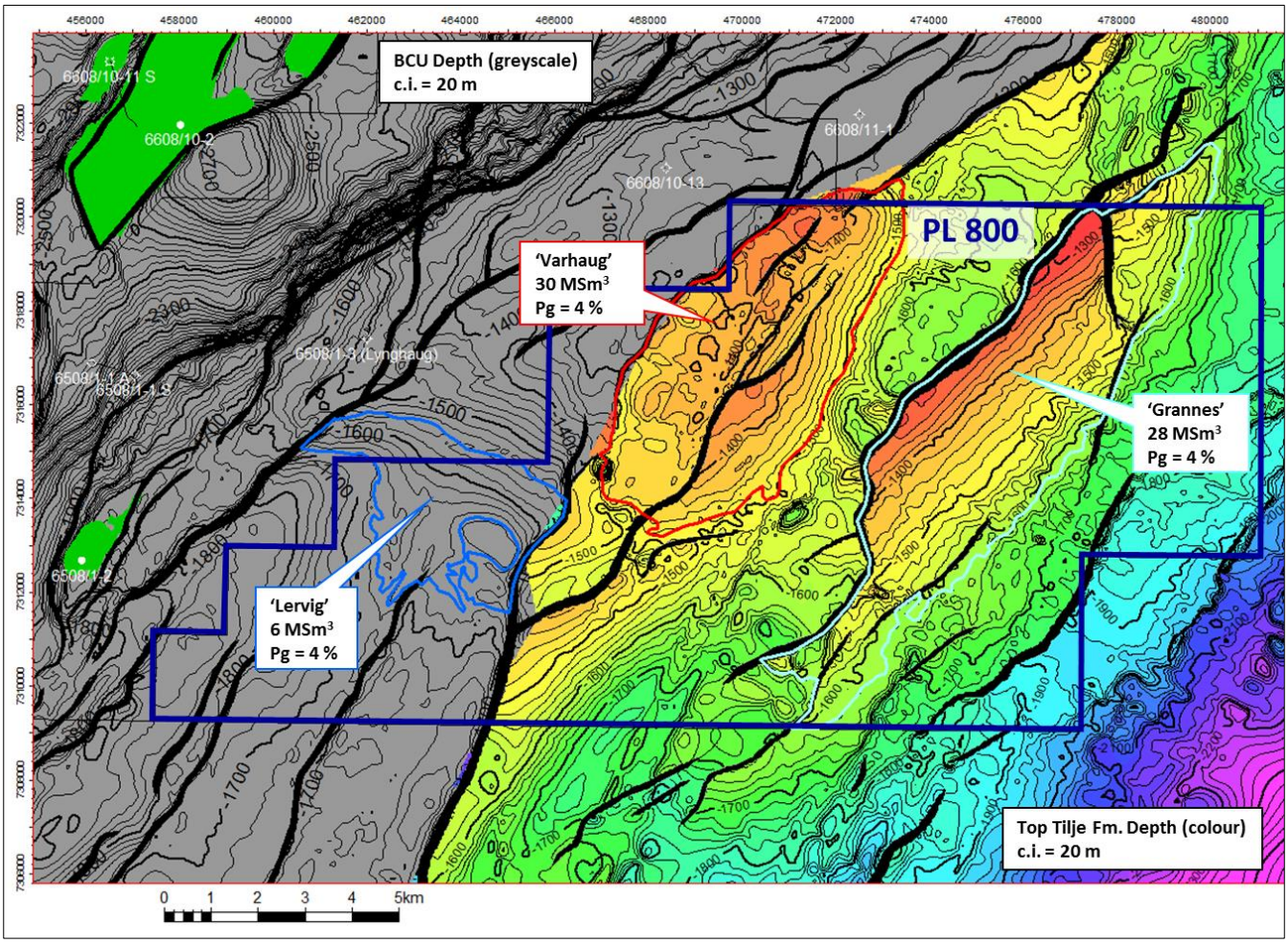


Figure 8.1: Prospect and lead summary map for the PL 800 licence. Mean recoverable oil volumes in million Sm^3 are presented on the map.

APPENDIX A: PROSPECT AND LEAD DATA SHEETS

Table A1: Grannes Prospect Data Sheet

Block	6508/2	Prospect name	Grannes	Discovery/Prosp/Lead	Prospect	Prosp ID (or New!)	NPD will insert value	NPD approved (Y/N)	
Play name	NPD will insert value	New Play (Y/N)		Outside play (Y/N)					
Oil, Gas or O&G case:	Oil	Reported by company	Capricorn Norge	Reference document	PL 800 Licence Relinquishment Report			Assessment year	2018
This is case no.:	1 of 1	Structural element	Nordland Ridge	Type of trap	Structural	Water depth [m MSL] (>0)	420	Seismic database (2D/3D)	3D
Resources IN PLACE and RECOVERABLE		**Main phase**				**Associated phase**			
Volumes, this case		Low (P90)	Base, Mode	Base, Mean	High (P10)	Low (P90)	Base, Mode	Base, Mean	High (P10)
In place resources	Oil [10^6 Sm^3] (>0.00)	20,30	67,50	80,20	158,00				
	Gas [10^9 Sm^3] (>0.00)					4,46	14,80	17,70	35,00
Recoverable resources	Oil [10^6 Sm^3] (>0.00)	6,65	23,00	27,90	56,00				
	Gas [10^9 Sm^3] (>0.00)					1,45	5,05	6,14	12,40
Reservoir Chrono (from)	Norian	Reservoir litho (from)	Greybeds	Source Rock, chrono primary	Kimmeridgian	Source Rock, litho primary	Spekk Fm.	Seal, Chrono	Paleocene
Reservoir Chrono (to)	Pliensbachian	Reservoir litho (to)	Tilje Fm.	Source Rock, chrono secondary	Permian	Source Rock, litho secondary	Ravnefjeld Fm. Eqv.	Seal, Litho	Tang Fm.
Probability [fraction]									
Total (oil + gas + oil & gas case) (0.00-1.00)	0,04	Oil case (0.00-1.00)	0,04	Gas case (0.00-1.00)	0,00	Oil & Gas case (0.00-1.00)	0,00		
Reservoir (P1) (0.00-1.00)	1,00	Trap (P2) (0.00-1.00)	0,80	Charge (P3) (0.00-1.00)	0,05	Retention (P4) (0.00-1.00)	0,90		
Parametres:	Low (P90)	Base	High (P10)	*Comments*					
Depth to top of prospect [m MSL] (> 0)	1270	1290	1310						
Area of closure [km^2] (> 0.0)	5,2	11,0	19,1						
Reservoir thickness [m] (> 0)	155	200	245						
HC column in prospect [m] (> 0)	103	171	240						
Gross rock vol. [10^9 m^3] (> 0.000)	0,243	0,787	1,765						
Net / Gross [fraction] (0.00-1.00)	0,40	0,50	0,60						
Porosity [fraction] (0.00-1.00)	0,24	0,27	0,30						
Permeability [mD] (> 0.0)	200,0	600,0	1000,0						
Water Saturation [fraction] (0.00-1.00)	0,35	0,28	0,20						
Bg [Rm3/Sm3] (< 1.0000)									
1/Bo [Sm3/Rm3] (< 1.00)	0,88	0,90	0,92						
GOR, free gas [Sm^3/Sm^3] (> 0)									
GOR, oil [Sm^3/Sm^3] (> 0)	210	220	230						
Recov. factor, oil main phase [fraction] (0.00-1.00)	0,26	0,35	0,43						
Recov. factor, gas ass. phase [fraction] (0.00-1.00)	0,26	0,35	0,43						
Recov. factor, gas main phase [fraction] (0.00-1.00)									
Recov. factor, liquid ass. phase [fraction] (0.00-1.00)				For NPD use:					
Temperature, top res [°C] (>0)	38			Innrapp. av geolog-init:	NPD will insert value	Registrert - init:	NPD will insert value	Kart oppdatert	NPD will insert value
Pressure, top res [bar] (>0)	130			Dato:	NPD will insert value	Registrert Dato:	NPD will insert value	Kart dato	NPD will insert value
Cut off criteria for N/G calculation	Porosity > 10 %	Permeability > 1mD	Vcl < 50 %					Kart nr	NPD will insert value

Table A2: Varhaug Prospect Data Sheet

Block	6508/1 and 6508/2	Prospect name	Varhaug	Discovery/Prosp/Lead	Prospect	Prosp ID (or New!)	NPD will insert value	NPD approved (Y/N)	
Play name	NPD will insert value	New Play (Y/N)		Outside play (Y/N)					
Oil, Gas or O&G case:	Oil	Reported by company	Capricorn Norge	Reference document	PL 800 Licence Relinquishment Report			Assessment year	2018
This is case no.:	1 of 1	Structural element	Nordland Ridge	Type of trap	Structural	Water depth [m MSL] (>0)	420	Seismic database (2D/3D)	3D
Resources IN PLACE and RECOVERABLE		**Main phase**				**Associated phase**			
Volumes, this case		Low (P90)	Base, Mode	Base, Mean	High (P10)	Low (P90)	Base, Mode	Base, Mean	High (P10)
In place resources	Oil [10^6 Sm^3] (>0.00)	19,20	77,20	85,90	165,00				
	Gas [10^9 Sm^3] (>0.00)					4,22	17,00	18,90	36,10
Recoverable resources	Oil [10^6 Sm^3] (>0.00)	6,40	26,20	29,90	58,50				
	Gas [10^9 Sm^3] (>0.00)					1,40	5,74	6,58	12,90
Reservoir Chrono (from)	Norian	Reservoir litho (from)	Greybeds	Source Rock, chrono primary	Kimmeridgian	Source Rock, litho primary	Spekk Fm.	Seal, Chrono	Toarcian
Reservoir Chrono (to)	Pliensbachian	Reservoir litho (to)	Tilje Fm.	Source Rock, chrono secondary	Permian	Source Rock, litho secondary	Ravnefjeld Fm. Eqv.	Seal, Litho	Ror Fm.
Probability [fraction]									
Total (oil + gas + oil & gas case) (0.00-1.00)	0,04	Oil case (0.00-1.00)	0,04	Gas case (0.00-1.00)	0,00	Oil & Gas case (0.00-1.00)	0,00		
Reservoir (P1) (0.00-1.00)	1,00	Trap (P2) (0.00-1.00)	0,90	Charge (P3) (0.00-1.00)	0,05	Retention (P4) (0.00-1.00)	0,90		
Parametres:	Low (P90)	Base	High (P10)	*Comments:*					
Depth to top of prospect [m MSL] (> 0)	1340	1320	1340						
Area of closure [km^2] (> 0.0)	9,0	20,5	29,3						
Reservoir thickness [m] (> 0)	120	155	200						
HC column in prospect [m] (> 0)	95	138	178						
Gross rock vol. [10^9 m^3] (> 0.000)	0,228	0,906	1,830						
Net / Gross [fraction] (0.00-1.00)	0,40	0,50	0,60						
Porosity [fraction] (0.00-1.00)	0,24	0,27	0,30						
Permeability [mD] (> 0.0)	200,0	600,0	1000,0						
Water Saturation [fraction] (0.00-1.00)	0,35	0,28	0,20						
Bg [Rm3/Sm3] (< 1.0000)									
1/Bo [Sm3/Rm3] (< 1.00)	0,88	0,90	0,92						
GOR, free gas [Sm^3/Sm^3] (> 0)									
GOR, oil [Sm^3/Sm^3] (> 0)	210	220	230						
Recov. factor, oil main phase [fraction] (0.00-1.00)	0,26	0,35	0,43						
Recov. factor, gas ass. phase [fraction] (0.00-1.00)	0,26	0,35	0,43						
Recov. factor, gas main phase [fraction] (0.00-1.00)									
Recov. factor, liquid ass. phase [fraction] (0.00-1.00)				For NPD use:					
Temperature, top res [°C] (>0)	38			Innrapp. av geolog-init:	NPD will insert value	Registrert - init:	NPD will insert value	Kart oppdatert	NPD will insert value
Pressure, top res [bar] (>0)	130			Dato:	NPD will insert value	Registrert Dato:	NPD will insert value	Kart dato	NPD will insert value
Cut off criteria for N/G calculation	Porosity > 10 %	Permeability > 1mD	Vcl < 50 %					Kart nr	NPD will insert value

Table A3: Lervig Lead Data Sheet

Block	6508/1	Prospect name	Lervig	Discovery/Prosp/Lead	Lead	Prosp ID (or New!)	NPD will insert value	NPD approved (Y/N)	
Play name	NPD will insert value	New Play (Y/N)		Outside play (Y/N)					
Oil, Gas or O&G case:	Oil	Reported by company	Capricorn Norge	Reference document	PL 800 Relinquishment Report			Assessment year	2019
This is case no.:	1 of 1	Structural element	Nordland Ridge	Type of trap	Stratigraphic	Water depth [m MSL] (>0)	390	Seismic database (2D/3D)	3D
Resources IN PLACE and RECOVERABLE		**Main phase**				**Associated phase**			
Volumes, this case		Low (P90)	Base, Mode	Base, Mean	High (P10)	Low (P90)	Base, Mode	Base, Mean	High (P10)
In place resources	Oil [10^6 Sm^3] (>0.00)	10,20	18,20	20,10	32,90				
	Gas [10^9 Sm^3] (>0.00)					0,14	0,29	0,33	0,56
Recoverable resources	Oil [10^6 Sm^3] (>0.00)	2,35	5,28	6,00	10,50				
	Gas [10^9 Sm^3] (>0.00)					0,03	0,08	0,10	0,18
Reservoir Chrono (from)	Kimmeridgian	Reservoir litho (from)	Rogn Fm.	Source Rock, chrono primary	Kimmeridgian	Source Rock, litho primary	Spekk Fm.	Seal, Chrono	Tithonian
Reservoir Chrono (to)	Tithonian	Reservoir litho (to)	Rogn Fm.	Source Rock, chrono secondary		Source Rock, litho secondary		Seal, Litho	Spekk Fm.
Probability [fraction]									
Total (oil + gas + oil & gas case) (0.00-1.00)	0,04	Oil case (0.00-1.00)	0,04	Gas case (0.00-1.00)	0,00	Oil & Gas case (0.00-1.00)	0,00		
Reservoir (P1) (0.00-1.00)	0,50	Trap (P2) (0.00-1.00)	0,80	Charge (P3) (0.00-1.00)	0,10	Retention (P4) (0.00-1.00)	0,90		
Parametres:	Low (P90)	Base	High (P10)	*Comments*					
Depth to top of prospect [m MSL] (> 0)	1520	1540	1560						
Area of closure [km^2] (> 0.0)	3,9	9,2	13,0						
Reservoir thickness [m] (> 0)	23	30	37						
HC column in prospect [m] (> 0)	74	120	131						
Gross rock vol. [10^9 m^3] (> 0.000)	0,089	0,148	0,253						
Net / Gross [fraction] (0.00-1.00)	0,55	0,68	0,80						
Porosity [fraction] (0.00-1.00)	0,24	0,30	0,32						
Permeability [mD] (> 0.0)	300,0	1000,0	3000,0						
Water Saturation [fraction] (0.00-1.00)	0,35	0,27	0,20						
Bg [Rm3/Sm3] (< 1.0000)									
1/Bo [Sm3/Rm3] (< 1.00)	0,88	0,91	0,94						
GOR, free gas [Sm^3/Sm^3] (> 0)									
GOR, oil [Sm^3/Sm^3] (> 0)	210	220	230						
Recov. factor, oil main phase [fraction] (0.00-1.00)	0,17	0,36	0,40						
Recov. factor, gas ass. phase [fraction] (0.00-1.00)	0,17	0,36	0,40						
Recov. factor, gas main phase [fraction] (0.00-1.00)									
Recov. factor, liquid ass. phase [fraction] (0.00-1.00)				For NPD use:					
Temperature, top res [°C] (>0)	49			Innrapp. av geolog-init:	NPD will insert value	Registrert - init:	NPD will insert value	Kart oppdatert	NPD will insert value
Pressure, top res [bar] (>0)	155			Dato:	NPD will insert value	Registrert Dato:	NPD will insert value	Kart dato	NPD will insert value
Cut off criteria for N/G calculation	Vcl < 50%	Porosity > 10%	Permeability > 1mD					Kart nr	NPD will insert value