Relinquishment Report PL824

Point Resources AS, Oslo, April 2018

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1 Key license history

The PL824 license was awarded on 5th of February 2016 to Point Resources AS (previously Pure E&P Norway AS) (40% and Operator) and license partners DNO Norge AS (previously Origo Exploration Norway AS) (30%) and Concedo ASA (30%) as part of the APA 2015 (Fig. 1.1). The work obligations were as follows:

- Within 2 years: Acquire 3D seismic within the awarded area and perform G&G studies as well as a drill or drop (DoD) decision. Optional: collection of IP lines and/ or CSEM data.
- Within 4 years: Drill one exploration well and decide to Concretise (BOK) or drop.
- Within 6 years: Perform conceptual studies and decide on Continuation (BOV) or drop.
- Within 7 years: Prepare development plan, decide to submit PDO or drop.

The voting rules to pass a resolution for the license were two of three companies to vote and a minimum 50% share needed for decision.

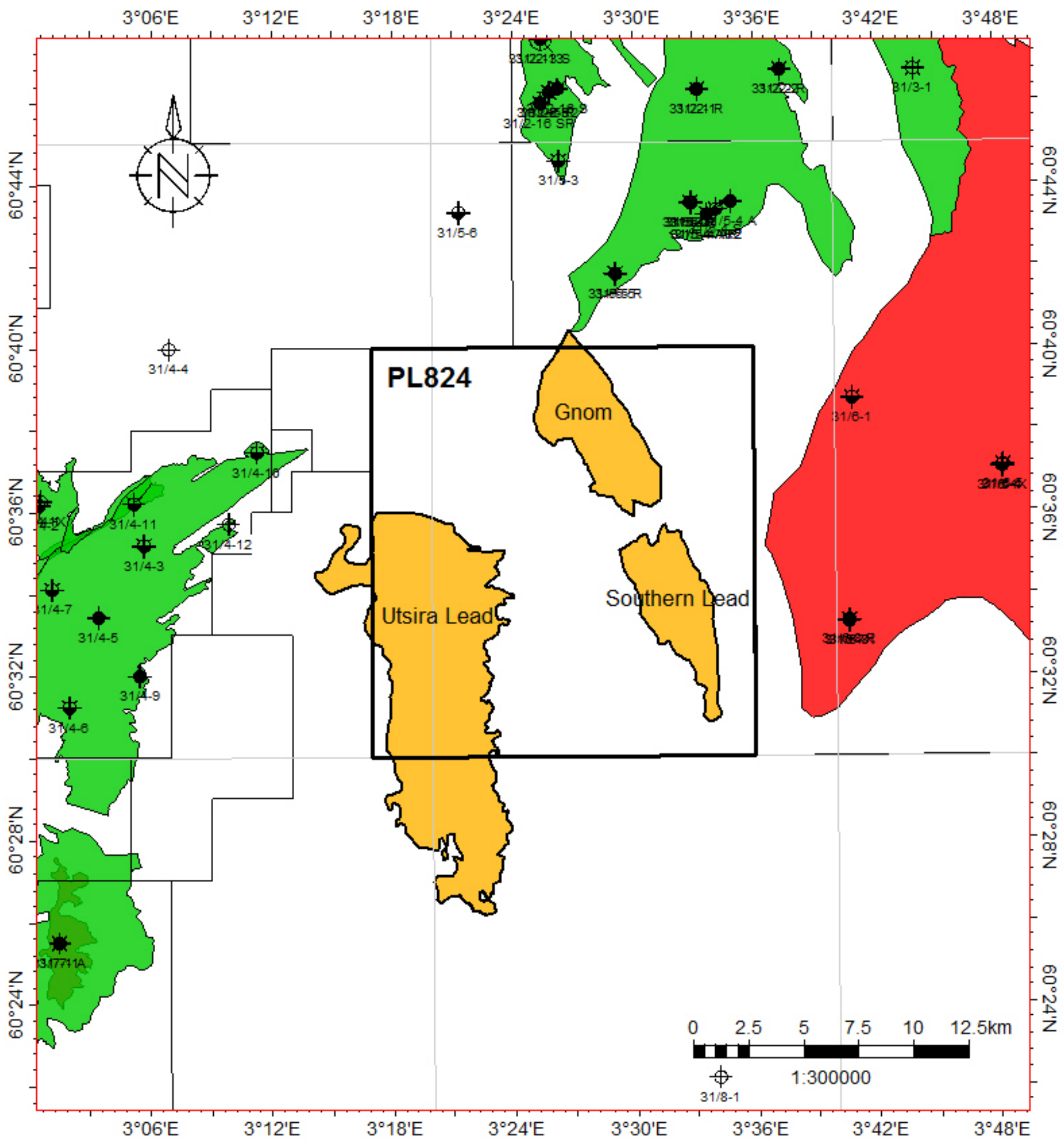


Fig. 1.1 License map with mapped prospect and leads.

Regular license meetings were held on the following dates:

- 11th March 2016 - EC/ MC meeting #1
- 16th November 2016 - EC/ MC meeting #2
- 15th November 2017 - EC/ MC meeting #3

The main objective of the license work was to mature prospect and leads in the area of PL824 to get a sufficient resource base combined with realistic positive commercial development solutions to recommend to the partnership to drill a well, alternatively to drop.

The license work obligations were fulfilled. Part of the CGG17M01-NVG was purchased. Based on the results from the G&G work, the Management Committee of PL824 has concluded to not drill a well and therefore relinquish the license.

The reason for relinquishment is that the new seismic 3D data revealed a new understanding of the trap and the amplitudes seen on 2D, which defined the main prospect, leading to the conclusion that the original trap no longer exist. It was not possible to mature the identified leads into prospects nor to identify significant new prospects.

Note: The main part of this report was written before the new "Guidelines for status report in connection with surrender, lapse or expiry of a production license" were published January 2018, the final revision of this document has incorporated the main changes according to the new guidelines, however the maximum number of pages has been exceeded due to that this limitation was not present in the old guidelines.

2 Database

2.1 Seismic database

The seismic database used for evaluation of the PL824 is shown in Fig. 2.1. The new data were purchased by the license group for performing G&G work. The CGG Horda 3D 2015 Fast Track survey, covering an area agreed by the license with the main prospect "Gnom" and additional leads, was acquired during Q3 of 2016 and interpreted. The final dataset was delivered to the PL824 partnership in summer 2017 and contained final stacks, offset stacks and pre-stack gathers, which were all used for the final evaluation. The CGG17M01-NVG 3D survey is a broadband merged seismic survey. The list of included individual surveys with NPDID is shown in Table 2.1.

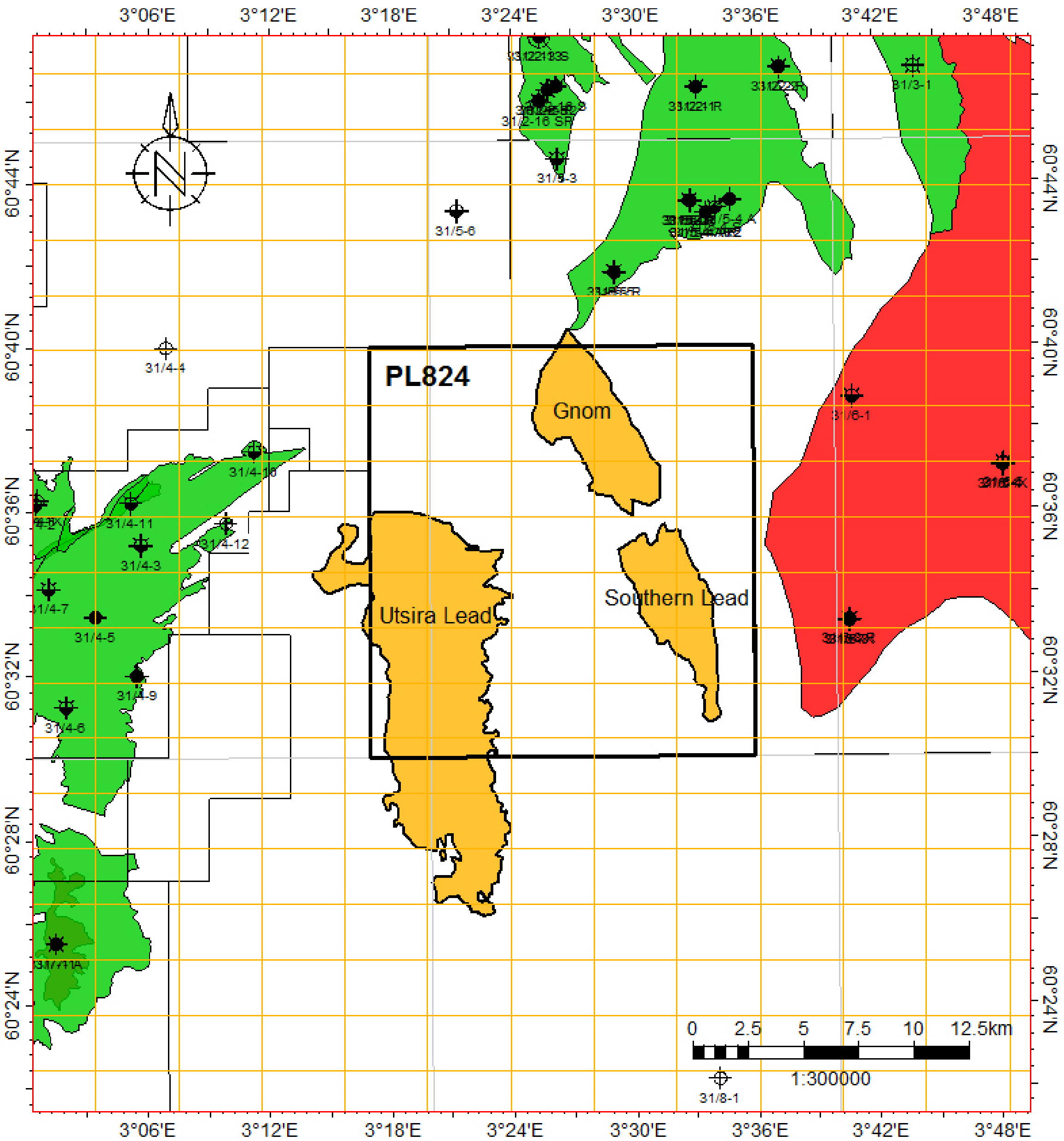


Fig. 2.1 Well and Seismic databases. *CGG17M01-NVG 3D dataset which covers the agreed by the license group area.*

Table 2.1 Seismic Database Table.

Survey Name	NPDID
CGG14003	7984
CGG14006	8128
CGG15001	8179
CGG15003	8194
CGG15007	8252
CGG16001 (CGG NVG TAMPEN16)	8332

The data are very suitable for quantitative seismic interpretation. The data quality of the CGG17M01-NVG 3D is good to very good with gaps of missing data over fields and discoveries. The CGG17M01-NVG 3D survey is a multiclient dataset with good regional structural imaging.

2.2 Well database

The common well database established for PL824 consisted of all publicly available well data in the area. All the wells used for lithostratigraphic evaluation are shown in Fig. 2.2. The table also shows for which wells the conventional core data have been used, petrophysical evaluation (CPI's) have been performed and which wells are considered important for the evaluation of hydrocarbon migration. All wells (except #32/2-1) have been utilized in the depth conversion process. The list of included individual wells with NPDID is shown in Table 2.2.

Wells	Completion Log	Well Correlation Panel	Conventional core analysis used: Sognefjord Fm	Test data	Core photos	CPI	Completion Report	Key wells for migration evaluation
31/4-3	X				X	X	X	
31/4-4	X	X					X	
31/4-5	X						X	
31/4-6	X						X	
31/4-8	X						X	
31/4-9	X						X	
31/4-10	X	X			X	X	X	
31/4-11	X						X	
31/4-12	X	X						
31/5-2	X	X			X	X	X	X
31/5-3	X	X	X	X	X	X	X	
31/5-4 S	X	X			X	X	X	X
31/5-5	X	X	X		X	X	X	X
31/5-6	X	X						
31/6-1	X	X			X	X	X	X
31/6-3	X				X	X	X	
31/6-5	X	X			X		X	X
31/6-6	X				X	X	X	
31/6-8	X	X	X		X	X	X	X
31/8-1	X	X						
32/2-1						X		

Fig. 2.2 Well database. *Used the same well database as for the APA 2015 Application.*

Table 2.2 Well Database with NPDID Table.

Wellbore name	Well name (NPDID)
31/4-3	402
31/4-4	214
31/4-5	403
31/4-6	43
31/4-8	312
31/4-9	1026
31/4-10	2617
31/4-11	4147
31/4-12	5051
31/5-2	32
31/5-3	101
31/5-4 S	1669
31/5-5	2059
31/5-6	4128
31/6-1	22
31/6-3	35
31/6-5	105
31/6-6	127
31/6-8	466
31/8-1	6604
32/2-1	5839

2.3 Special studies

The following geophysical studies and methods have been performed and are described in 3.2 Geophysics:

- Relative Acoustic and Elastic Impedance Inversions
- RGB blending
- AVO study

3 Review of Geological and Geophysical studies

The subsurface evaluation of the PL824 has been primarily focused on the Upper Jurassic Play, represented by the Sognefjord formation and corresponding to the reservoir unit of the main "Gnom" prospect located on the Horda Platform on the edge between the Bjørgvin Arch and the Stord Basin, south of the Troll West Field and east of the Brage Field. The tectonic framework of this region is dominated by a series of north-south trending terraces, separated by steep westward-dipping normal faults. The main movement of the faults took place during the Late Jurassic-Early Cretaceous rifting event. Several episodes of fault movement with accompanied subsidence and sedimentation from the Permian-Triassic to the Early-Middle Jurassic have been documented (Thomas 1985, Evans 2003 and Dreyer et al. 2005), as well as minor normal fault activity in the Early and Late Cretaceous along these faults. The Horda Platform exhibits a relatively un-deformed stratigraphy from the Permian to the Early Cretaceous (Fig. 3.1).

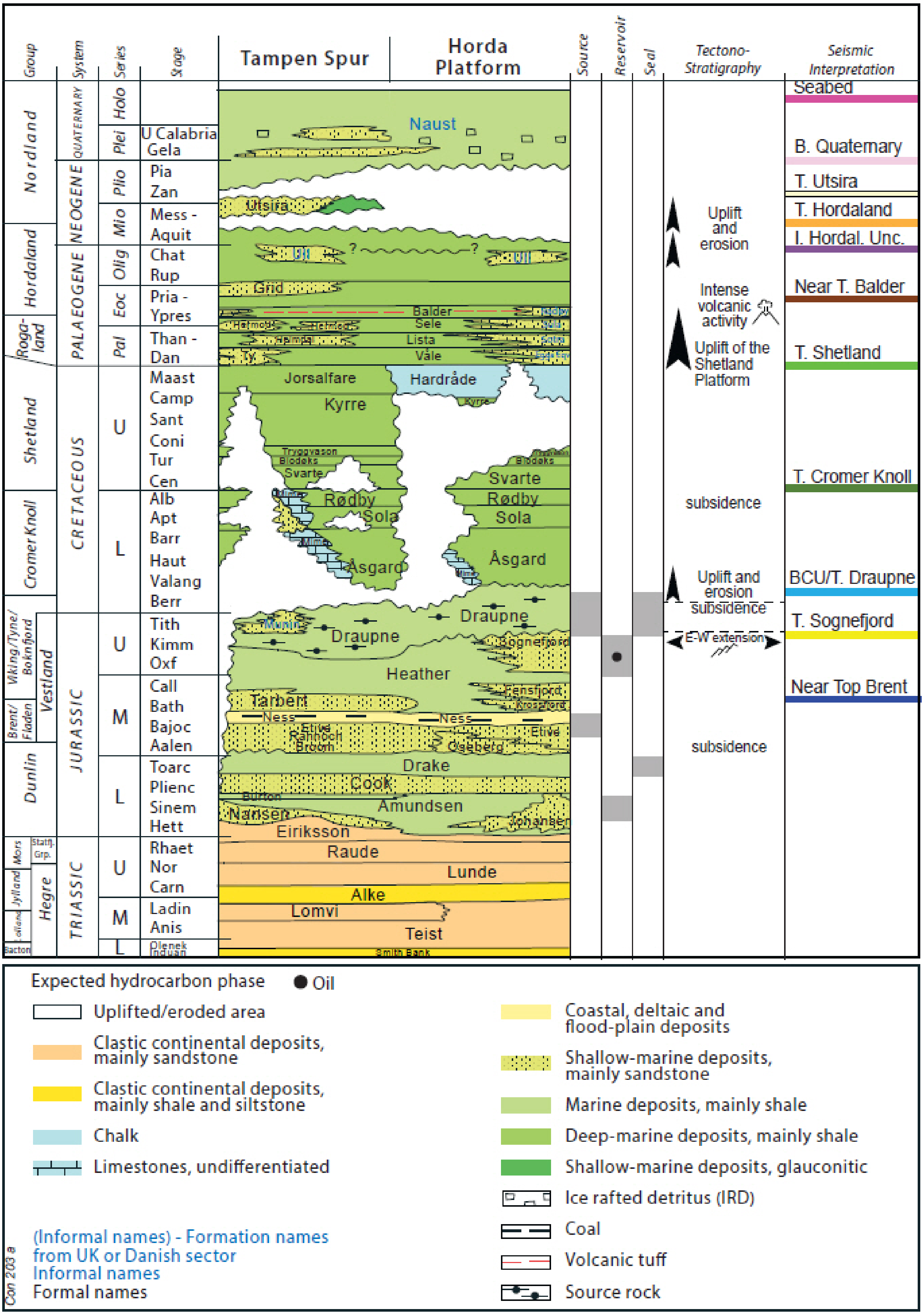


Fig. 3.1 Chrono-, Litho- and Tectono-stratigraphic framework (modified after NPD 2014). *Indication of the source rock, prospect reservoir and seal. Interpreted seismic horizons are also marked in the right column.*

The application for the license was based on seismic interpretation carried out on several 3D seismic surveys and 2D data of varying qualities and seismic vintages. The most important uncertainty in the seismic interpretation was not related to the merging process of the data, but more related to the fact that there was no 3D coverage over the Gnom prospect. A large uncertainty was related to the trap definition.

In order to de-risk the different prospect elements, the new CGG17M01-NVG 3D was acquired over the Gnom prospect and the two identified leads (Utsira and Southern) to reduce the uncertainties related to the seismic interpretation.

A completely new interpretation on the new 3D data and a thorough evaluation of the prospectivity within the Jurassic Play and other prospective intervals have been performed and will be presented in following chapters.

3.1 Seismic interpretation

The new CGG17M01-NVG 3D seismic data were interpreted (horizons and faults) in a great detail and shown in this chapter in comparison to the previous work from the APA 2015 Application which had been using mainly the 2D data. The main interpreted horizons are the Seabed, top Hordaland Group, top Horda Formation, near top Balder Formation, top Shetland Group, near top Blodøks Formation, top Cromer Knoll Group, top Draupne Formation, near top Sognefjord Formation (the main reservoir level at the Gnom prospect and Southern lead) and near top Brent Group (Fig. 3.2).

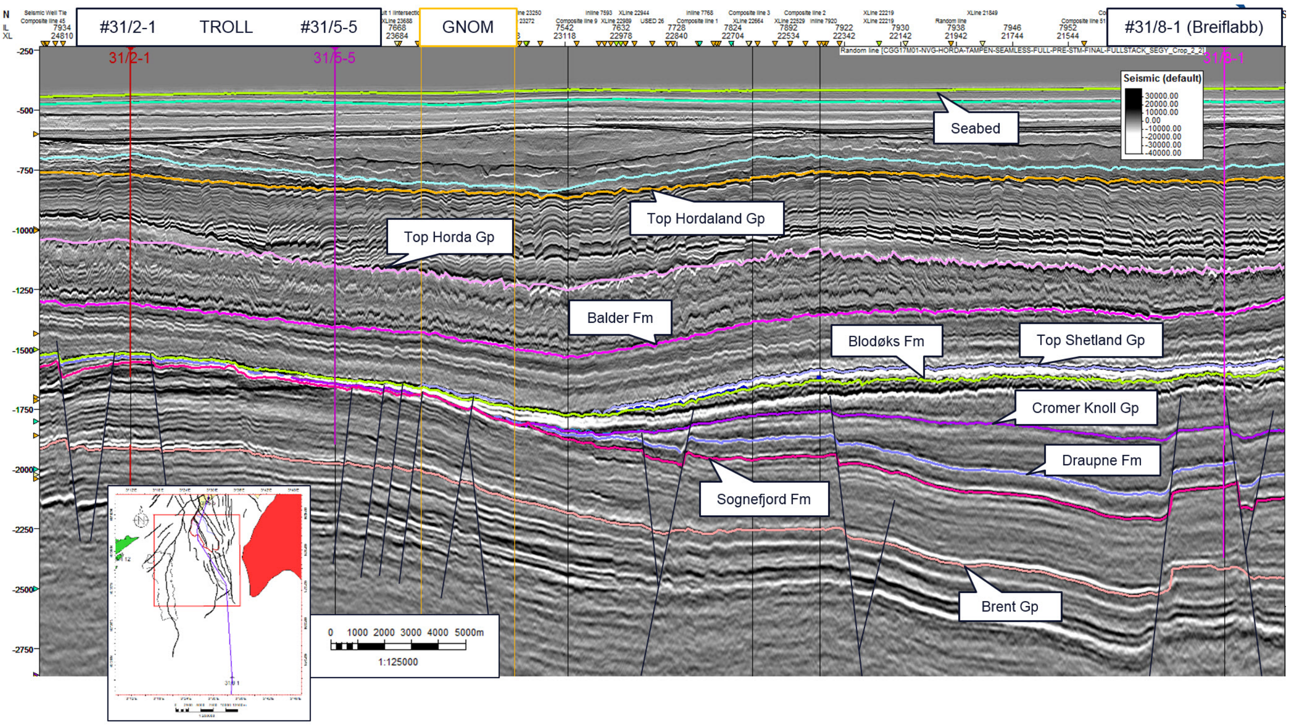


Fig. 3.2 Semi-regional interpretation using new CGG17M01-NVG 3D data. *The Gnom prospect is a late Jurassic fault block bounded structure, with NW-SE striking faults.*

New seismic well tie using the closest well #31/5-5 from the Troll West Gas Province (TWGP) with a good tie is shown in Fig. 3.3.

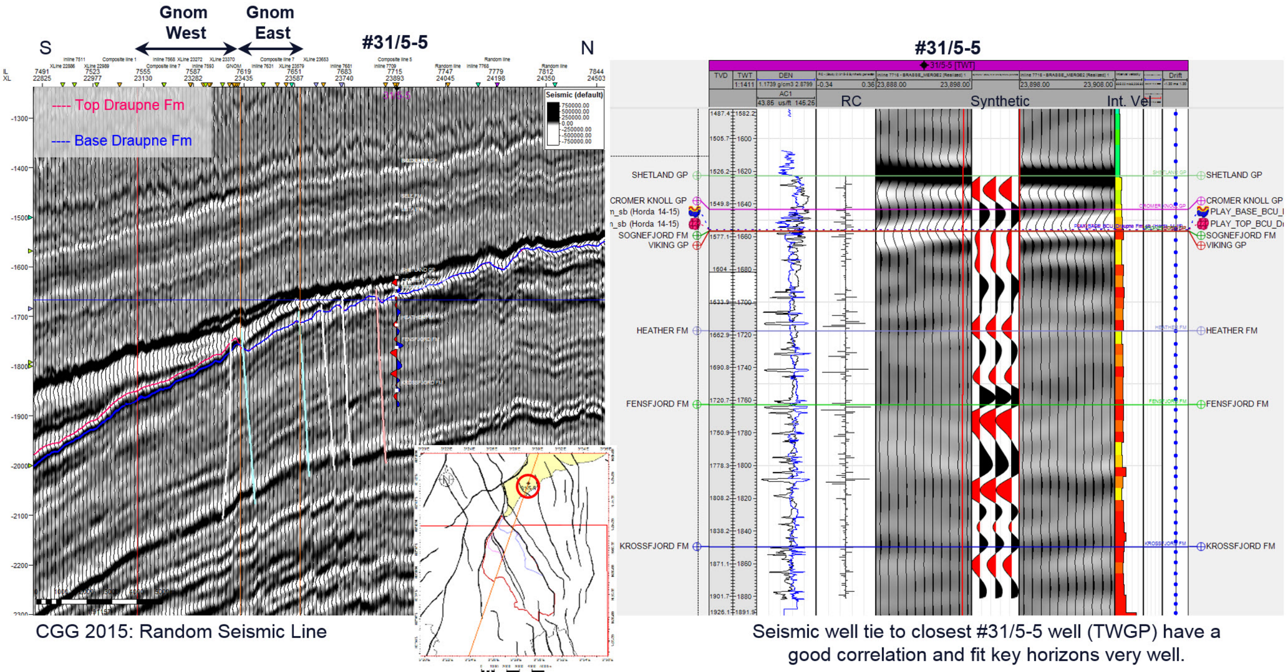
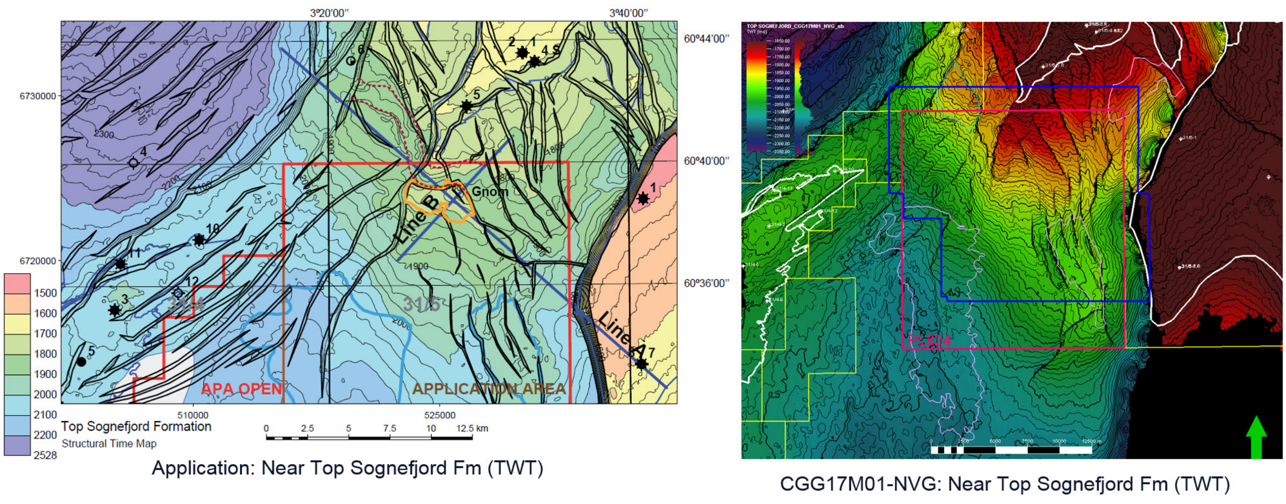


Fig. 3.3 Seismic well #31/5-5 tie. *Well #31/5-5 is the closest well to the Gnom prospect from the Troll West Gas Province (TWGP).*

New updated key maps as the top Draupne Formation, near top Sognefjord Formation and Draupne Formation thickness maps in time and depth are shown (Fig. 3.4 , Fig. 3.5, Fig. 3.6 and Fig. 3.7).



The Sognefjord Fm is a shallow-marine system characterized by wave and tide influence, with a high/ energy coastal zone to the West and a tidal backbasin to the East-South-East *(Whitaker (1984) and Hellem et al. 1986).*

Fig. 3.4 Comparison between an old near top Sognefjord formation map and an updated map (TWT). *To the left is the near top Sognefjord formation map (TWT) from the APA 2015 Application. To the right is an updated near top Sognefjord formation map (TWT) using new CGG17M01-NVG 3D data.*

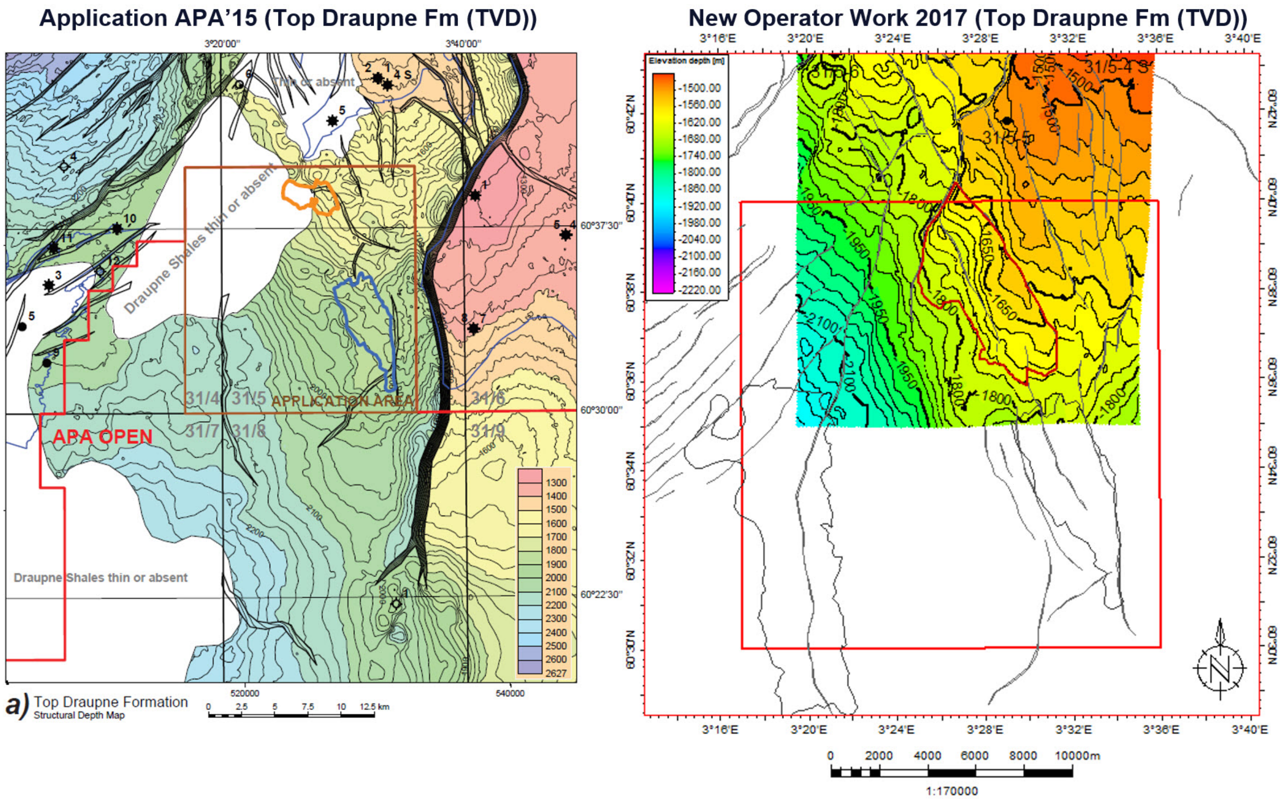


Fig. 3.5 Top Draupne formation (Depth). *To the left is the top Draupne formation map (Depth) from the APA 2015 Application. To the right is an updated top Draupne formation map (Depth) using new CGG17M01-NVG 3D data.*

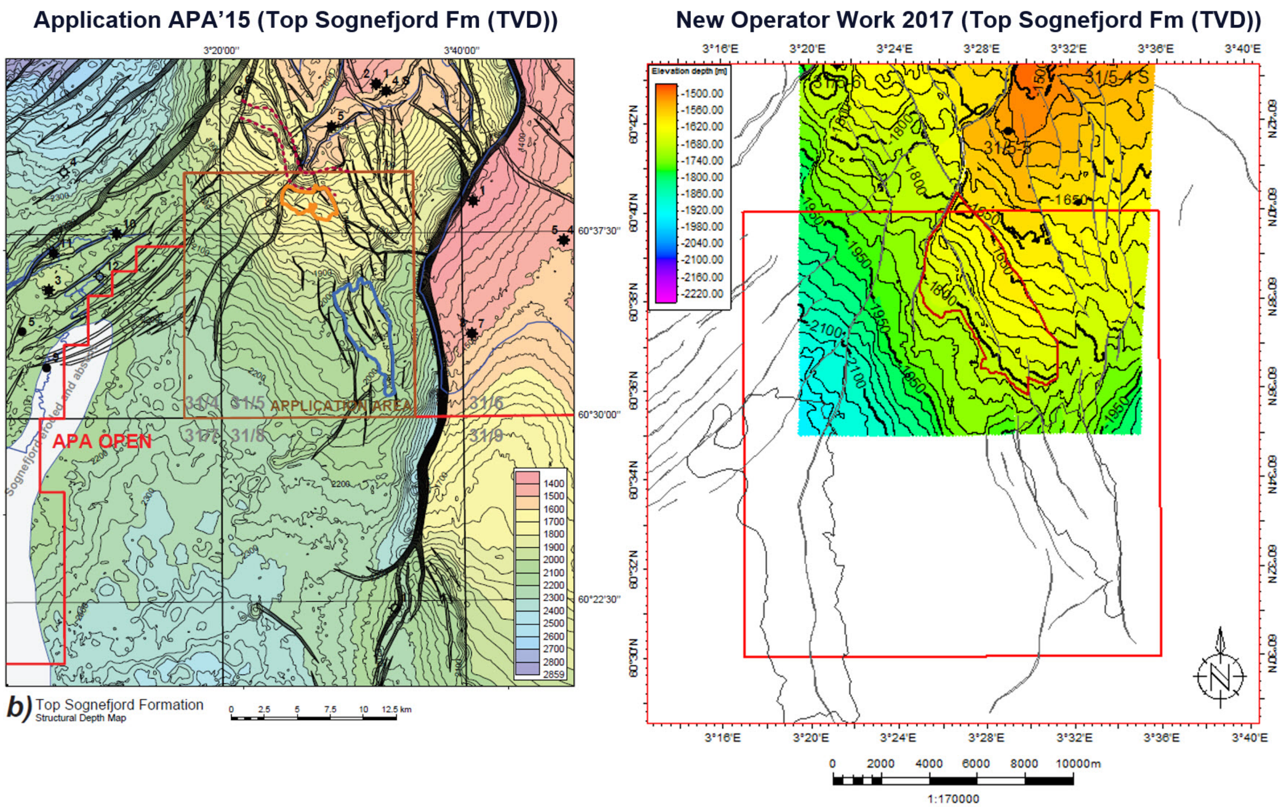


Fig. 3.6 Near top Sognefjord formation (Depth). *To the left is the near top Sognefjord formation map (Depth) from the APA 2015 Application. To the right is an updated near top Sognefjord formation map (Depth) using new CGG17M01-NVG 3D data.*

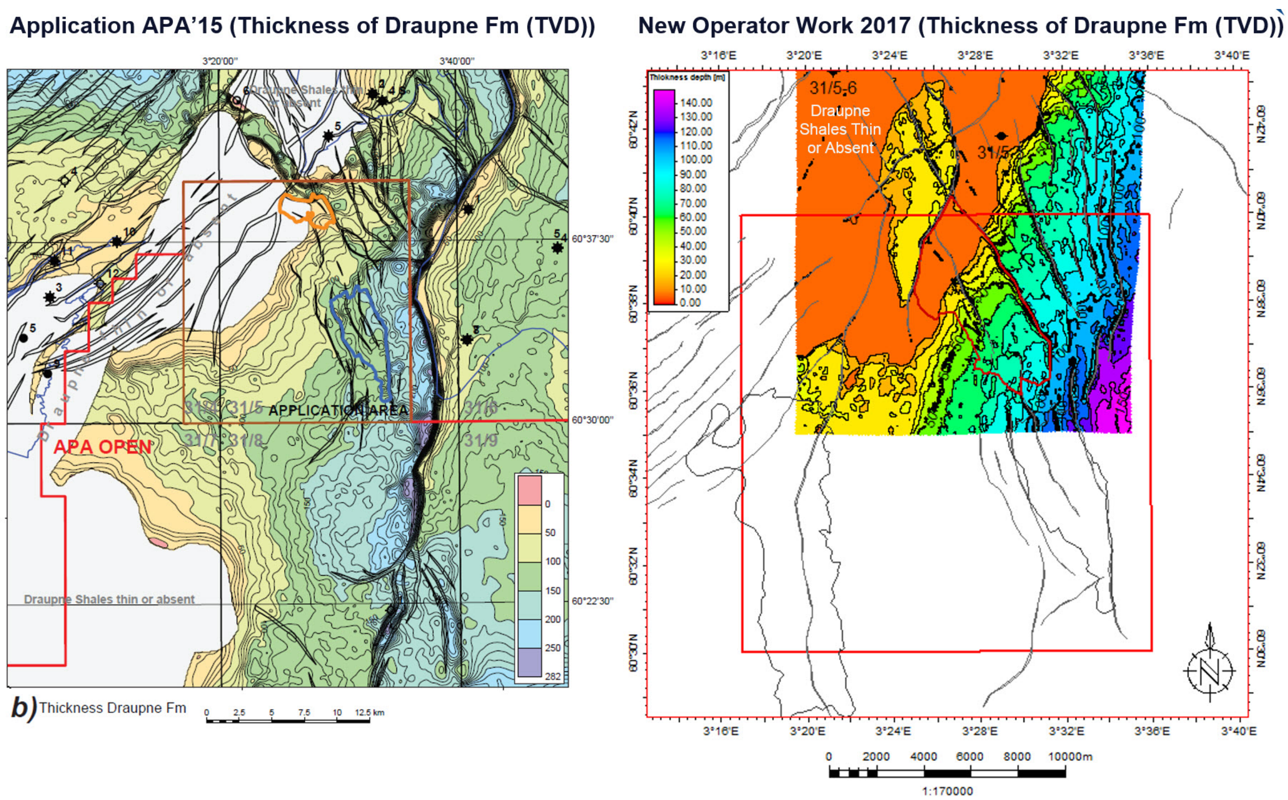


Fig. 3.7 Thickness map of the Draupne formation (Depth). *To the left is the thickness map of the Draupne formation (Depth) from the APA 2015 Application. To the right is an updated thickness map of the Draupne formation (Depth) using new CGG17M01-NVG 3D data.*

3.2 Geophysics

The following studies were carried out to help to de-risk identified prospect and leads as well as identifying new possibilities.

Relative Acoustic and Elastic Impedance

Relative Acoustic and Elastic Impedance cubes derived from post stack amplitude inversion can be useful for qualitative estimates of reservoir properties such as porosity, fluid, gross rock volume and others. Input data for the Relative Acoustic/ Elastic Inversion were the CGG15003 Near and Far Angle Stacks respectively.

The Relative Elastic Impedance 3D cubes (Near and Far Offset) produced in-house were used to identify the seismic anomaly within the Gnom trap (Fig. 3.8). The Fast Track cube in combination with the Relative Elastic Impedance Near and Far Offset cubes were used for the detailed Draupne and Sognefjord formations interpretation (Fig. 3.9, Fig. 3.10). The Relative Elastic Impedance Near Offset cube was critical to use for the interpretation and understanding of the thin Draupne interval which is partly present and partly eroded in the area.

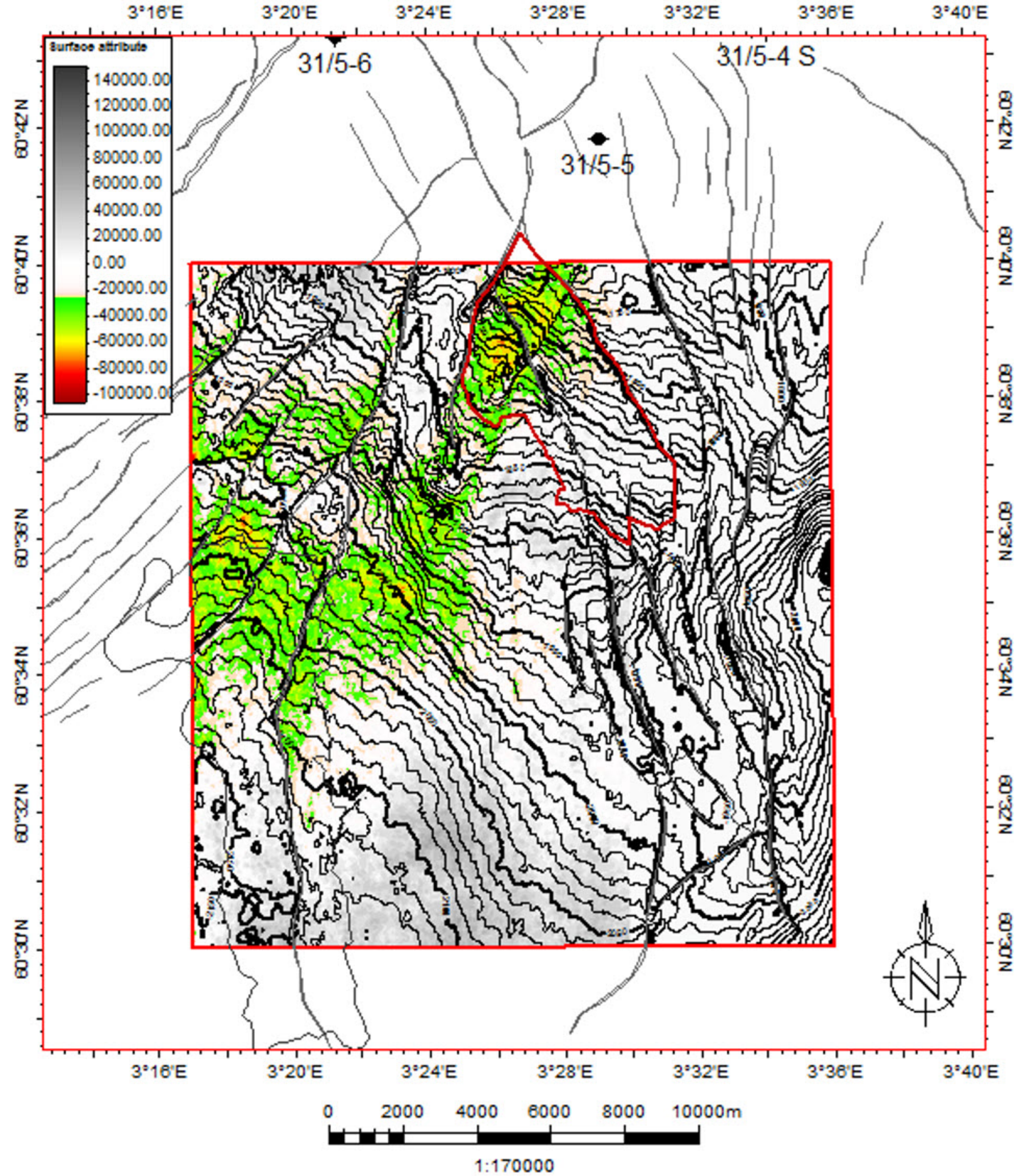


Fig. 3.8 Mean Amplitude map at the top Sognefjord formation. *Far Offset cube (-10ms / -40ms).*

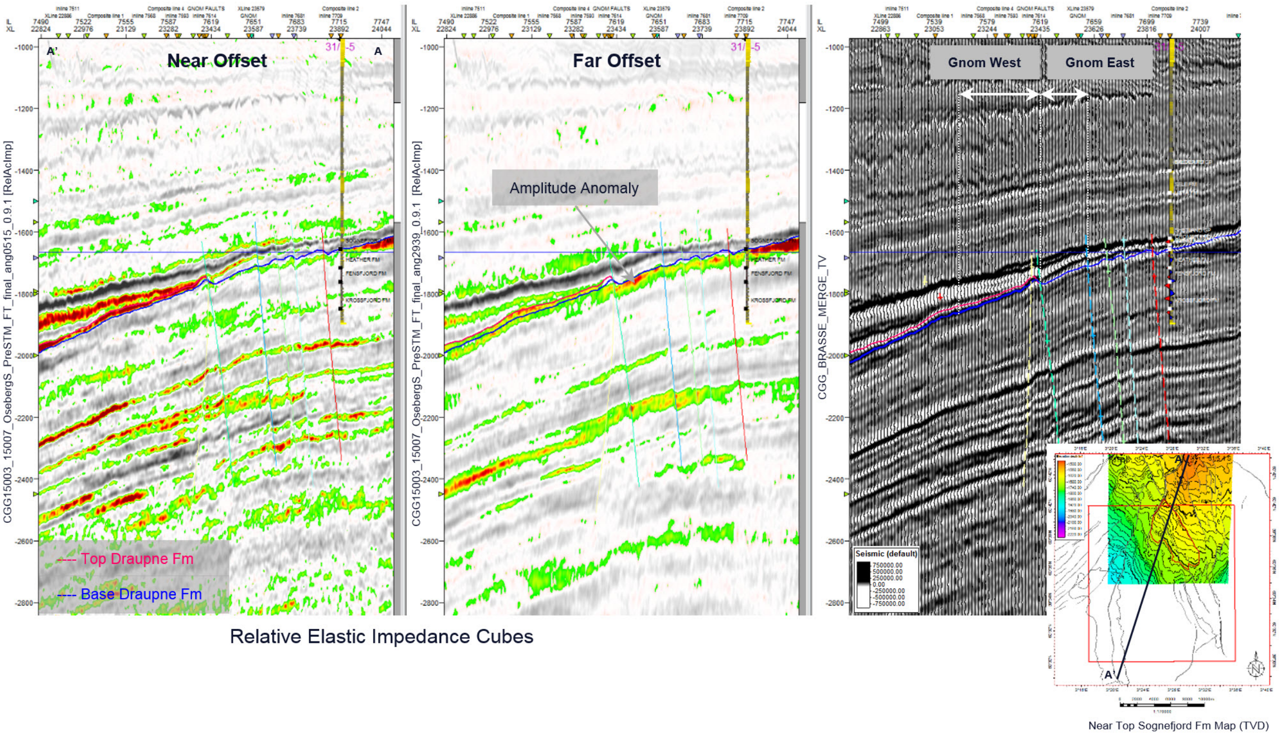


Fig. 3.9 Random line over the Gnom structure using Relative Elastic Impedance cubes. *A drop in Vp/ Vs may suggest that some sands or silts are present in the AOI. Observed anomaly within Gnom structure on the Far Offset cube.*

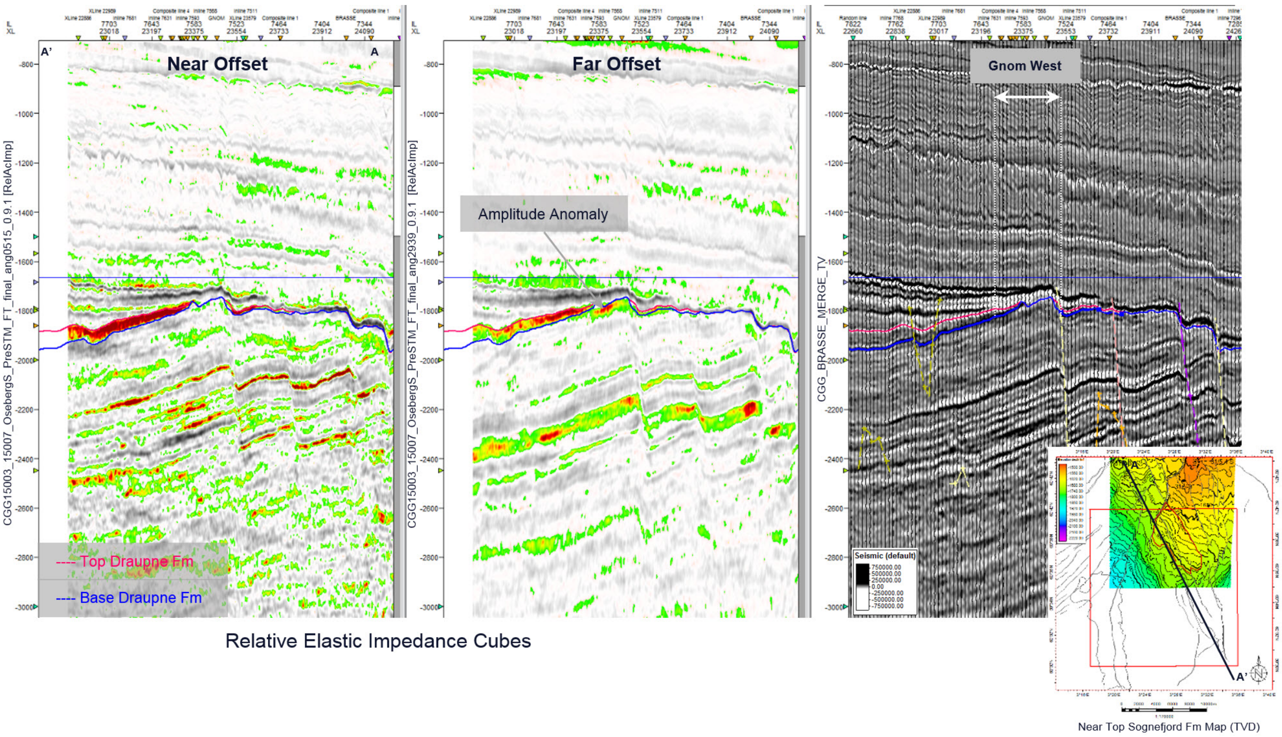


Fig. 3.10 Random line shows the seismic anomaly over the Gnom structure using Relative Elastic Impedance cubes. *The Relative Elastic Impedance cubes have mainly been used to interprete top and base Draupne interval.*

Edge Detection Attribute

The Edge Detection operation was used for the identification of the discrete edges on a surface where subtle changes in the surface topography occur. This method was used to rapidly highlight fault network within the Gnom license and identified potential low throw structures not discernible in seismic sections at different stratigraphic levels. More detailed description of the results are written in 4 Prospect update (Fig. 4.4).

Frequency Decomposition Analysis (RGB Blending)

Frequency decomposition analysis (RGB blending) was done on the Full Offset Stack and extracted on all interpreted horizons as well as pseudo horizons from the sea bottom to the top Basement. The resulting RGB cube was mostly used to identify geological features, and in particular to search for depositional patterns that could indicate depositional fairways and presence of reservoir in the area.

AVO and Rock Physics

The following AVO cubes were generated to use for AVO scanning:

1. AVOCUBE = ENVELOPE (FAR) - ENVELOPE (NEAR)

2. PSEUDO Intercept x Gradient = (NEAR * FAR - NEAR)

In addition to impedance and AVO cubes, pre stack gather data inspection was done for all identified prospects and leads to identify any far offset amplitude anomalies that could be caused by critical and/ or converted energy.

The detailed geophysical work (Rock Physics and AVO) for the Sognefjord reservoir was calibrated to the Breiflabb dry well (#31/8-1) to the south (Fig. 3.11) and one of the Troll production wells (#31/5-J-41) to the east.

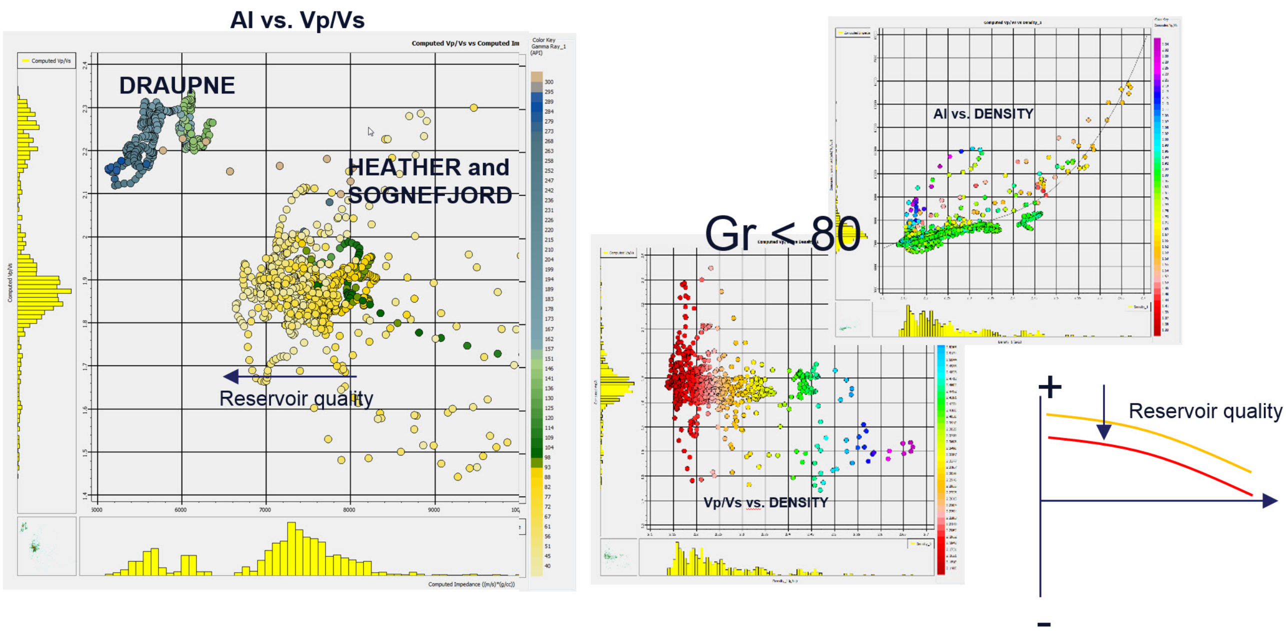


Fig. 3.11 In-house Rock Physics and AVO - Breiflabb well #31/8-1.

The main observations and summary are listed below:

- Rock Physics observations from wells with full suite of elastic logs fits very well with the observed seismic responses;
- Top/ Base Draupne interval have strongest reflectivity at the near offsets;
- Use Inversion data to guide picking when Draupne formation is thin;
- In general, low reflectivity is observed within the Upper Jurassic sandy units (Krossfjord, Fensfjord and Sognefjord formations);
- Soft Far offset reflectivity within these sandy units could indicate good reservoir properties (even DHIs);
- GCC17M01-NVG 3D Horda broadband data are very suitable for Quantitative Seismic Interpretation;
- Full Pre-Stack Inversion has been performed. The Cretaceous potential in the license was thoroughly investigated. A seismic anomaly was identified on the Relative Elastic Near and Far offset cubes and interpreted. A large area of this anomaly is located above the Troll GOC/ OWC (eastwards), but is outside the PL824 license boundary.

4 Prospect update

In the APA 2015 Application, one prospect at the Sognefjord formation level and two leads at the Utsira and Sognefjord formations levels were identified. Each prospect and lead were carefully evaluated and presented below.

Gnom Prospect

The subsurface evaluation of the PL824 license has mainly focused on the de-risking the critical risk factors associated with the trap, the fault sealing capacity and the migration. At the time of the application, the trap of the Gnom prospect was believed to be a trap with both a structural and stratigraphic component. Structural definition was regarded of medium-high confidence whilst the confidence in the stratigraphic interpretation was less. The Tithonian unconformity mapped on the northern side of the north Gnom fault gave room for a thicker Draupne section here than used to be possible with a pure structural interpretation. The concept was that this excess of Draupne shales bounding the Gnom reservoir towards the North increased prospect integrity and allowed a larger volume of hydrocarbons to be retained in Gnom prospect (Fig. 4.1). It was important to stress that all mapping for the application had been undertaken on a fairly loose 2D data grid and that detailed mapping on 3D seismic was necessary in order to resolve many of the uncertainties related to the mapping.

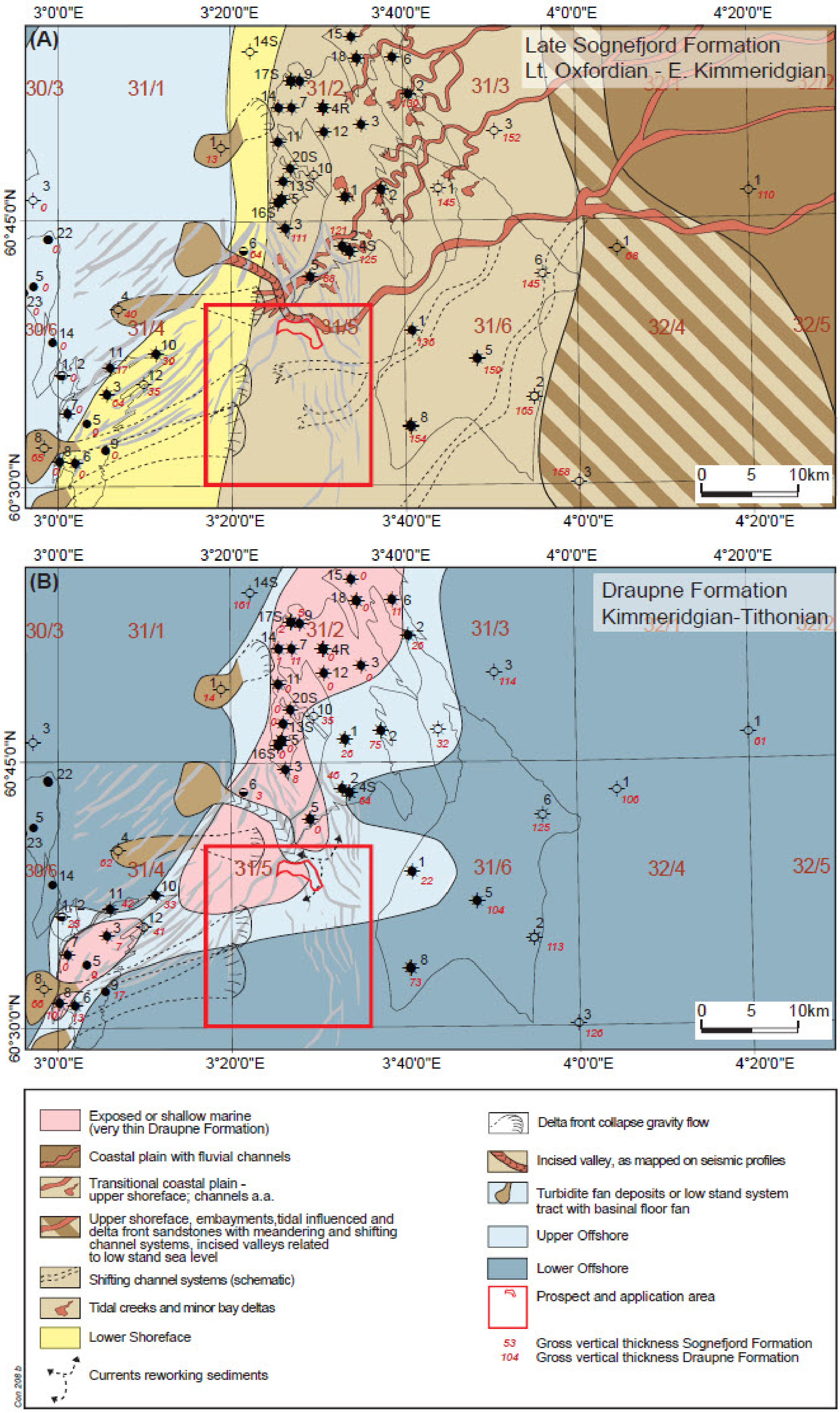


Fig. 4.1 Paleogeographic maps for the Sognefjord and Draupne formations taking from the APA 2015 Application. *(A) Late Oxfordian-Early Kimmeridgian paleomap, Sognefjord Formation is a synthesis of in house interpretation and published maps in Ramberg et al. (2008), Steward et al. (1995), Evans et al. (2003), Dexter, J. et al. (2005) and Dreyer et al. (2005). (B) The Kimmeridgian-Tithonian paleomap for the Draupne Formation.*

The new interpretation revealed that the Gnom structure is a structural trap with two small fault-controlled closures at the top Sognefjord level. The Draupne shales are partly eroded and partly overlying Sognefjord sands in the SE part of each compartment as shown in Fig. 3.2. The Cromer Knoll shales and marls are generally present, but are thin (10 - 20 m). The trapping of hydrocarbons is dependent on the effectiveness of the overlying Cromer Knoll shales, as well as on a fault throw that is large enough to juxtapose Sognefjord formation against Cromer Knoll shales.

The updated interpretation was used to build a new 3D structural model for the Gnom structure. The main focus has been on the new structural trap definition and fault sealing capacity as this is one of the main risks in the license. A detailed fault seal analysis was performed using the critical faults between the Troll West and the Gnom structure (Fig. 4.2). The classical Allan Diagrams were created for each critical fault to understand the maximum and minimum fault throws (Fig. 4.3).

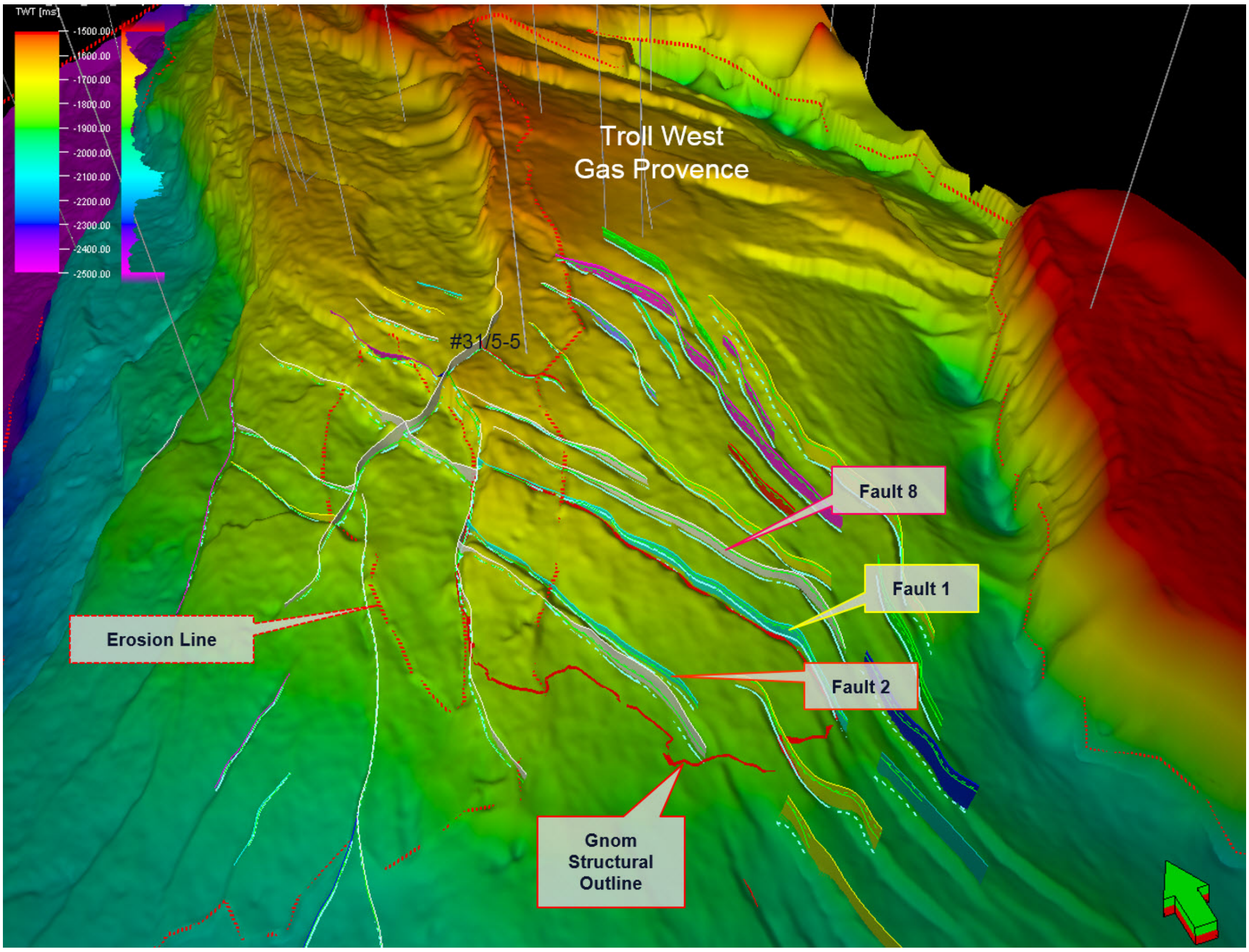


Fig. 4.2 3D display of the structural framework for the Fault Seal Analysis.

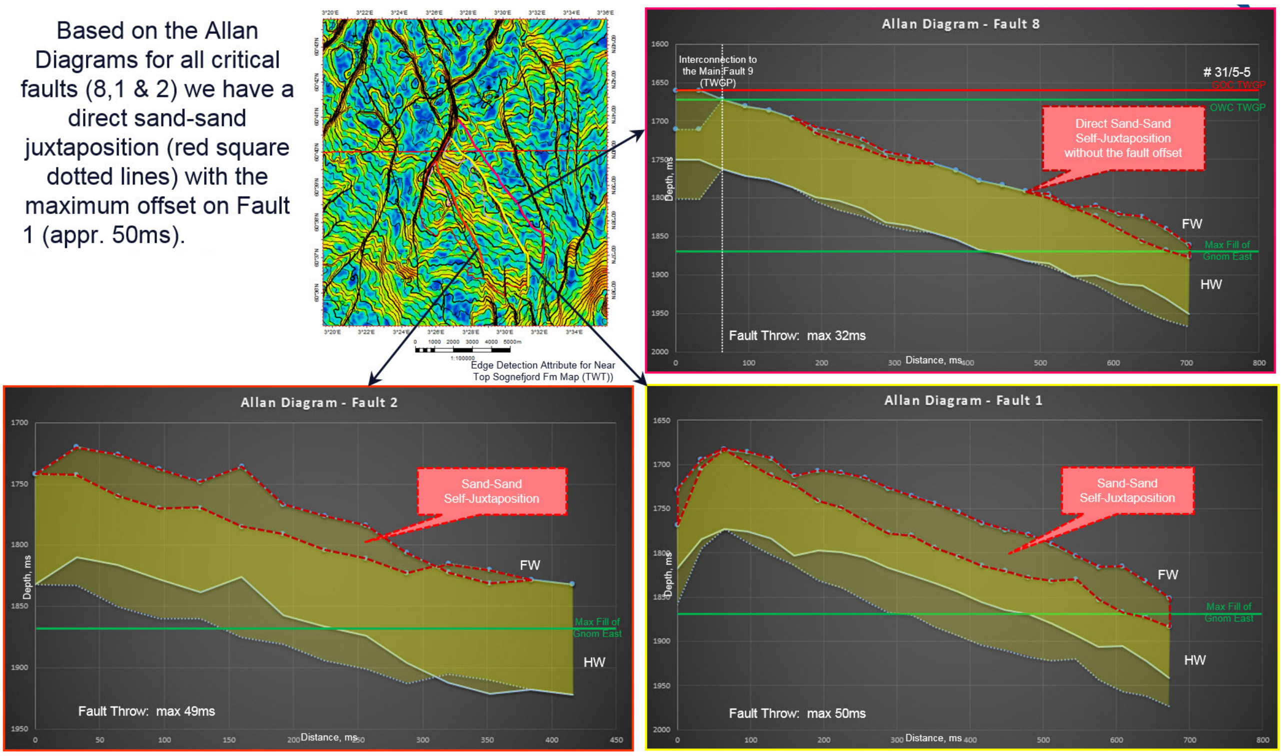


Fig. 4.3 Allan Diagrams for critical faults 8, 1 and 2 within Gnom structure.

The Gnom prospect is a late Jurassic fault block bounded structure, with NW-SE striking faults. For better understanding of Gnom's complex and compartmentalized structure, the Edge Detection Attribute was applied. This attribute was used to enhance the quality of fault models generated to de-risk the trap and fault seal of the Gnom prospect (Fig. 4.4).

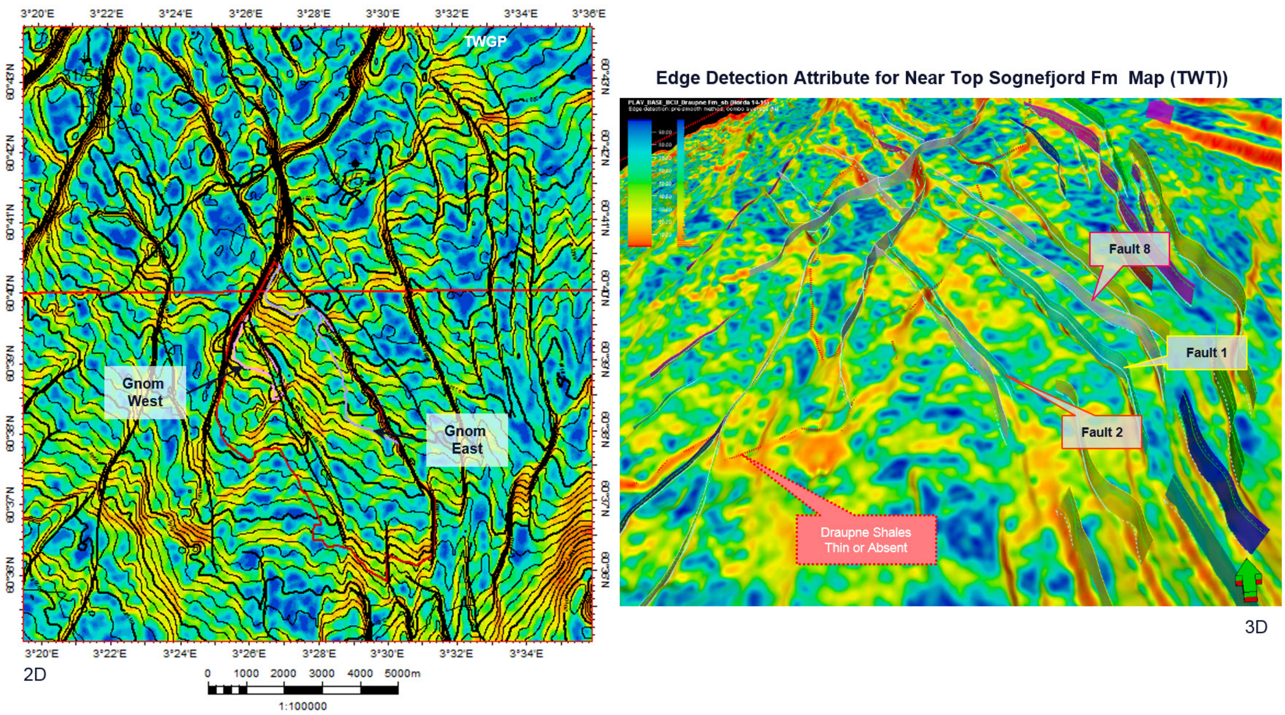


Fig. 4.4 Edge Detection Attribute was used for all critical faults within the license.

Two SGR plots for 2 reference wells (#31/5-5 and #31/8-1) are described below and shown in Fig. 4.5 and Fig. 4.6.

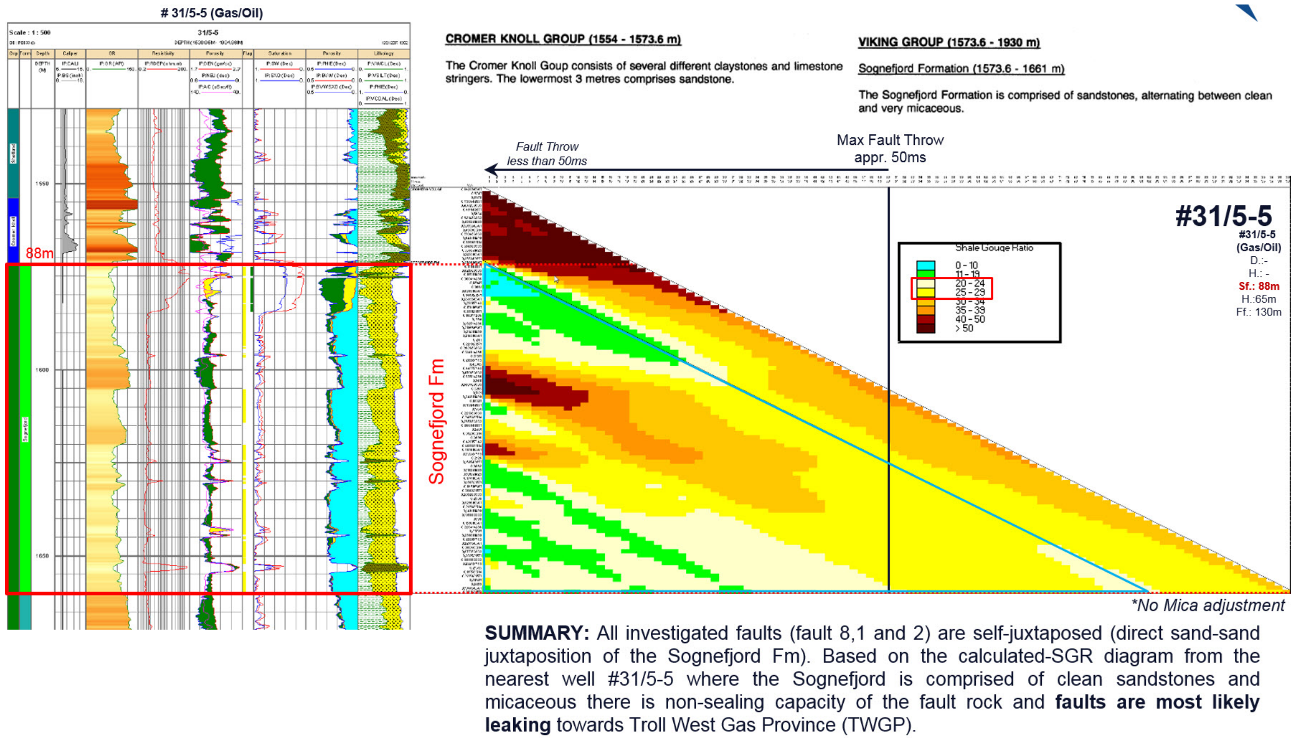


Fig. 4.5 SGR Diagram for well #31/5-5 (TWGP).

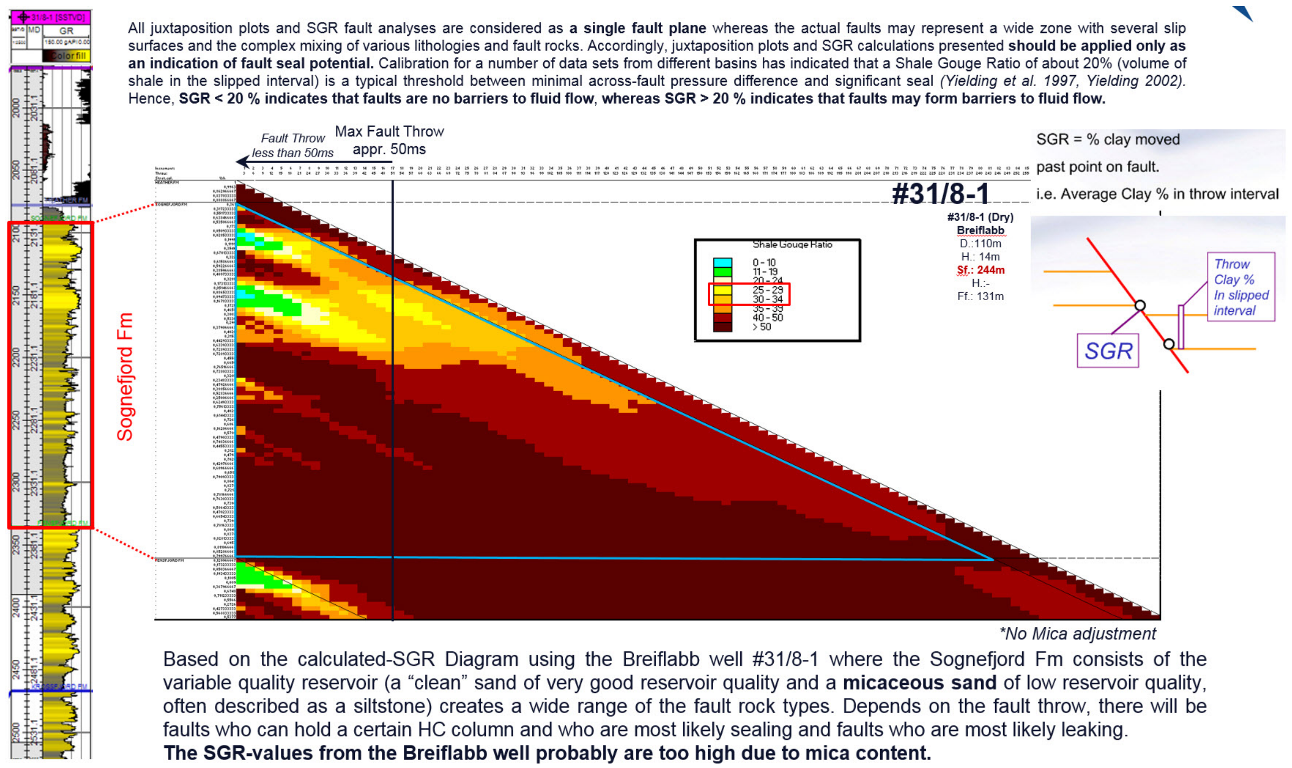


Fig. 4.6 SGR Diagram for well #31/8-1 (Breiflabb).

All investigated faults (fault 8, 1 and 2) are self-juxtaposed (direct sand-sand juxtaposition of the Sognefjord formation) (Fig. 4.2). None of the investigated faults bounding Gnom structure towards the Troll West Gas Province have a large displacement (Fig. 4.3). The maximum fault throws are appr. 50 ms and the Sognefjord sands on the footwall (FW) are juxtaposed against the Sognefjord sands on the hanging-wall (HW) from the Troll West Gas Province to the Gnom structure. Based on the calculated-SGR diagram from the nearest well #31/5-5 where the Sognefjord is comprised of clean and micaceous sandstones there is non-sealing capacity of the fault rock, and faults are most likely leaking towards Troll West Gas Province (TWGP).

Based on the calculated-SGR diagram using the Breiflabb well #31/8-1 where the Sognefjord formation consists of variable quality reservoir (a “clean” sand of very good reservoir quality and a micaceous sand of low reservoir quality, often described as a siltstone) creates a wide range of the fault rock types. Depending on the fault throw, there will be faults that can hold a certain hydrocarbon column and are most likely sealing and faults are most likely leaking. The SGR-values from the Breiflabb well probably are too high due to mica content.

The results of the advanced 3D SGR modelling are shown for each fault towards the Gnom structure who plays an important role to seal the trap (Fig. 4.7). The conclusion after the modelling was that the Gnom trap is dependent upon faults with limited seal potential. The SGR values are too low to hold a significant hydrocarbon column (Fig. 4.8).

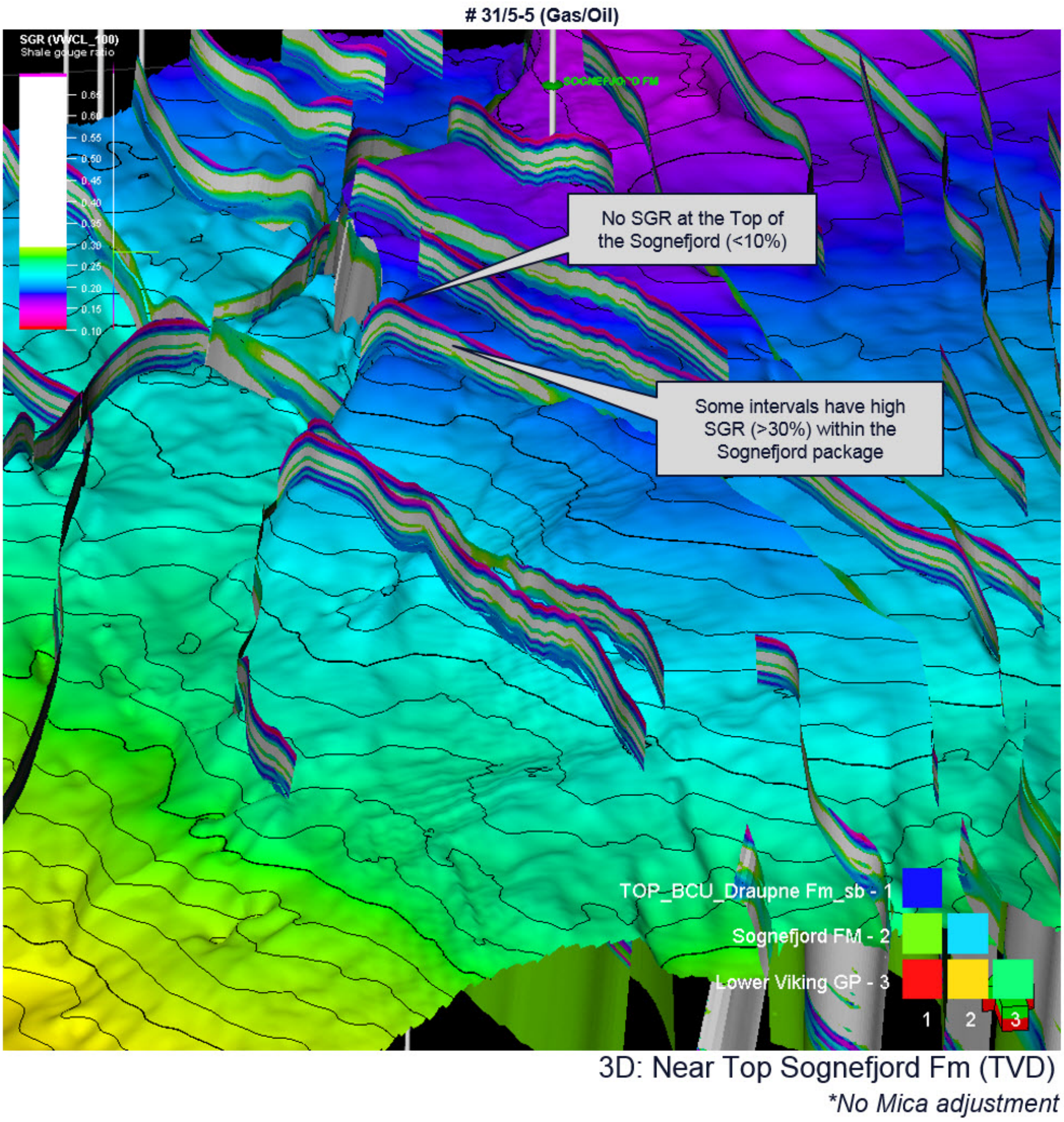
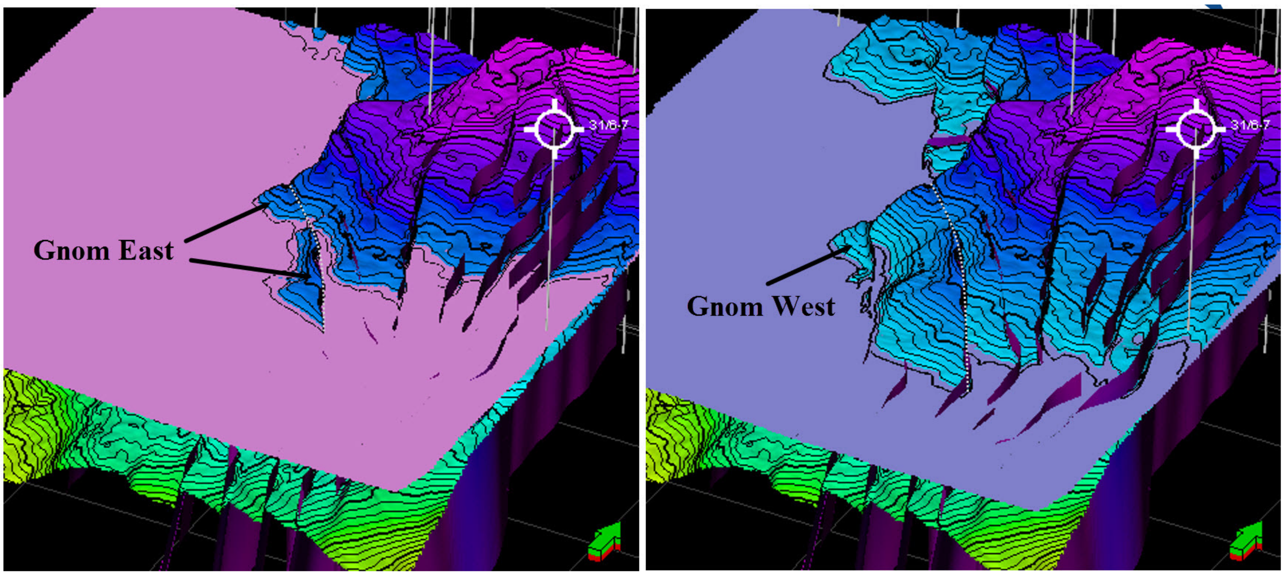


Fig. 4.7 In-house SGR 3D Modelling.



Gnom East Structure «non-sealing case» Gnom West Structure «non-sealing case»

Fig. 4.8 Gnom structure where all critical faults are leaking - "non-sealing cases". *In the "non-sealing" cases the 2 compartments of the Gnom structure are very small with low POS and small volumes.*

The second main risk in the license is associated with hydrocarbon migration. The operator used the available paleo-contacts from the publications from the Troll Field to understand and support a model with charge of the Gnom structure at the same time as the Troll Field prior to the tilting. Unfortunately, there was not enough evidence to support this model (Fig. 4.9).

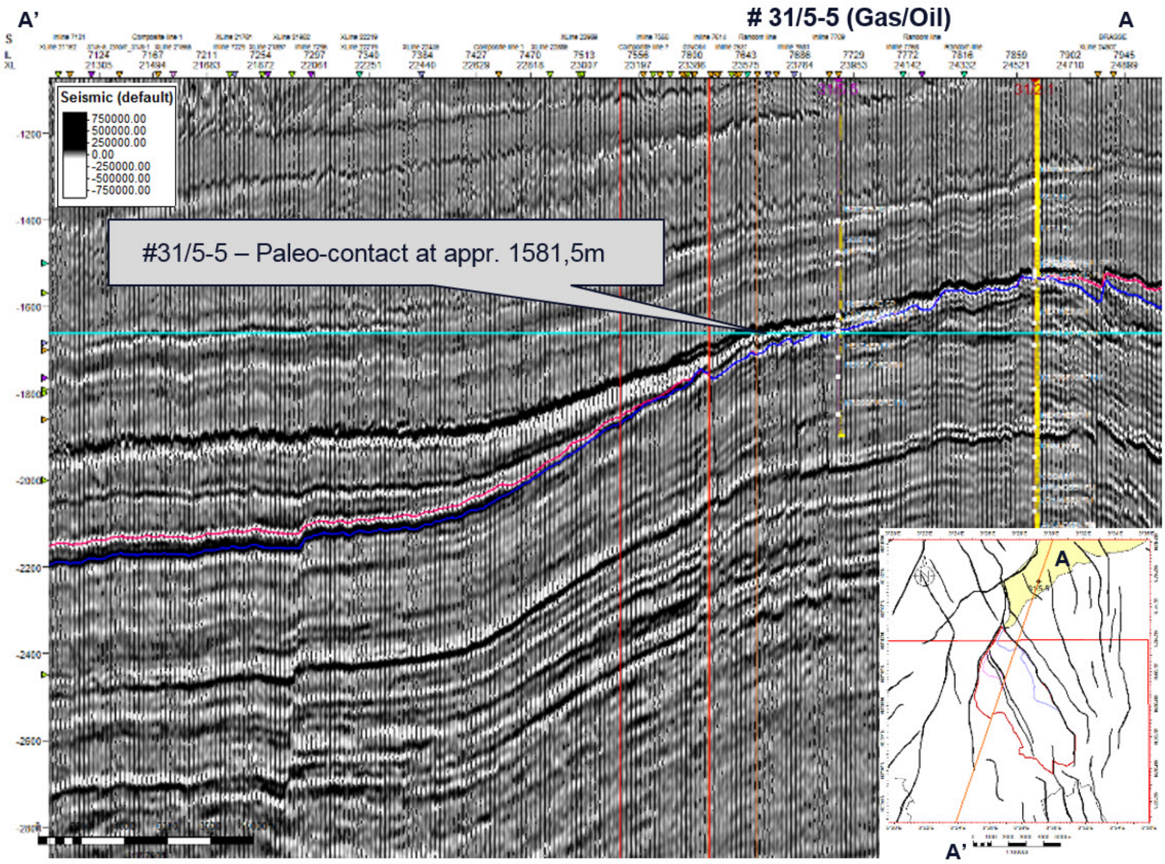


Fig. 4.9 Paleo-contact above the well #31/5-5 (Oil/ Gas). *The Gnom structure is between 2 red lines. The Paleo-contact is above the current crest of the Gnom trap.*

As a final conclusion for the main prospect, the Gnom structure is challenging and after the new 3D interpretation the structural closures are small with low POS (<10%). Updated resource estimates based on the results of the fault seal analysis unfortunately resulted in Pmean volumes below commercial threshold. The estimated prospective resources in Gnom are less then 2 MSm^3 o.e.

With such a low volumes, the Gnom structure is downgraded to lead status and therefore Table 5 is regarded non-relevant.

Utsira Lead

The Utsira lead seems to be of Messinian age, corresponding to the NPD Utsira sandstones. The Utsira sandstone has been interpreted as a marine sand deposit that records a stable paleogeographic setting of shelf sand transport and accumulation within an epeiric shelf sea which persisted for ca. 8 Myr. The source area was mainly to the west. The maximum thickness exceeds 300 m. The sands of Utsira formation display a complex architecture and an elongated sand body extends some 450 km N-S and 90 km E-W. The northern and southern parts consist mainly of large mounded sand systems. In the middle part the deposits are thinner, and in the northernmost part (Tampen area) they consist of thin beds of glauconitic sands.

The seismic response at the top of the Utsira sands in the Utsira lead have a bright response compared to the Brage area where all wells were drilled through the water bearing Utsira formation (Fig. 4.10). A seismic analysis comparing the brine-filled Utsira in the Brage area with the Utsira lead was carried out (Fig. 4.11). The analysis indicate that the Utsira lead is brine-filled. If the Utsira lead contains oil, there is a high risk that the oil will be biodegraded. The RGB and the Elastic Impedance cubes were used to show the channel passing through the Utsira lead and anomalies within the structural trap (Fig. 4.12). The top Hordaland Group represent the base of the Utsira lead (Fig. 4.13). The chaotic seismic reflection package on the northern and western side of the lead was interpreted as mobilized mud masses, Jackson (*Application of three-dimensional seismic data to documenting the scale, geometry and distribution of soft-sediment features in sedimentary basins: an example from the Lomre Terrace, offshore Norway, Christopher A-L. Jackson, 2007*) was used as reference for this assumption.

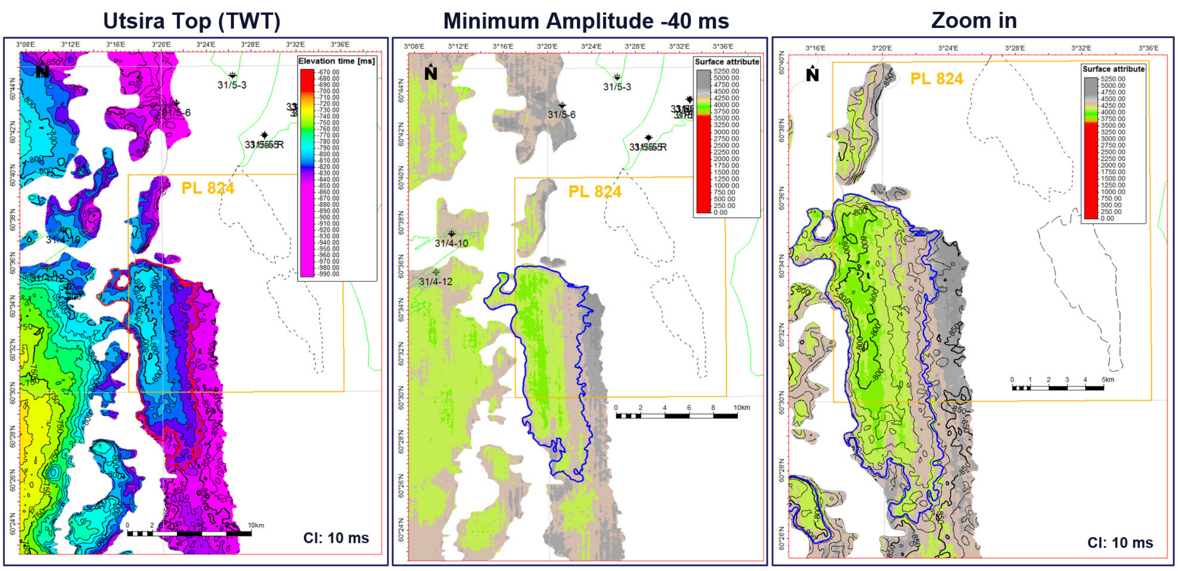


Fig. 4.10 Top of the Utsira formation map (TWT); Minimum Amplitude map (-40 ms); 2D Zoom-in display.

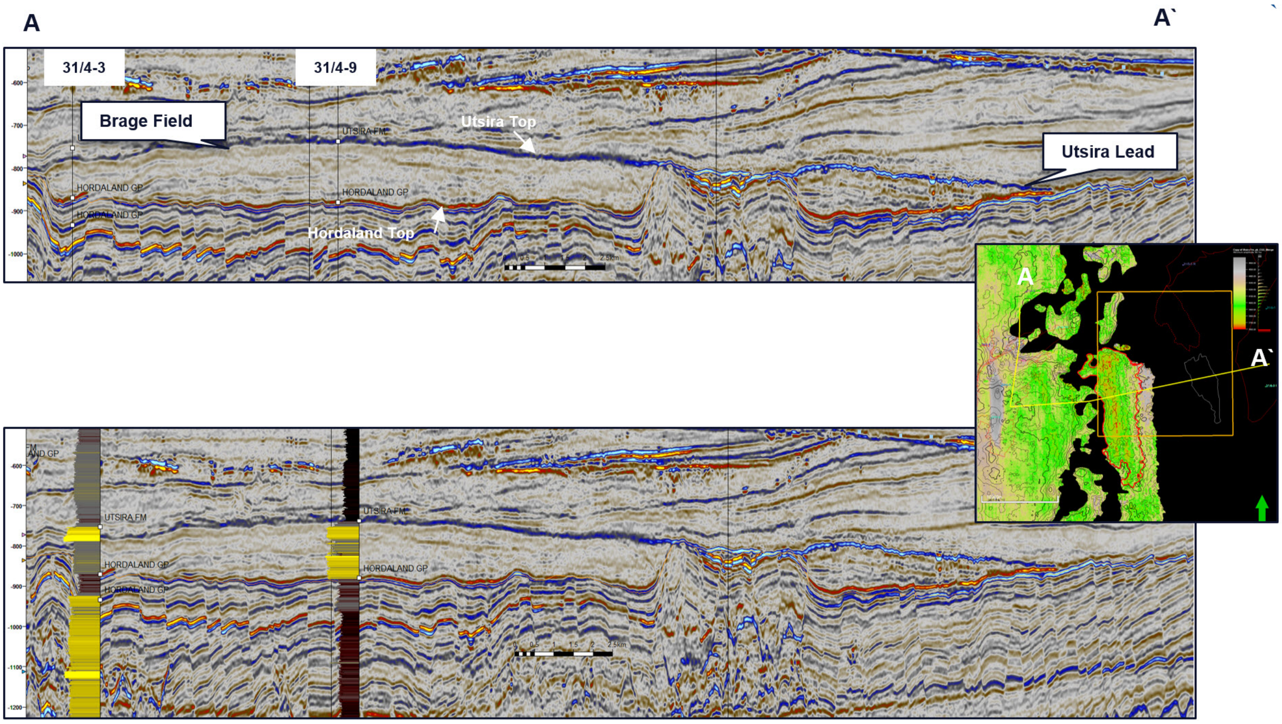
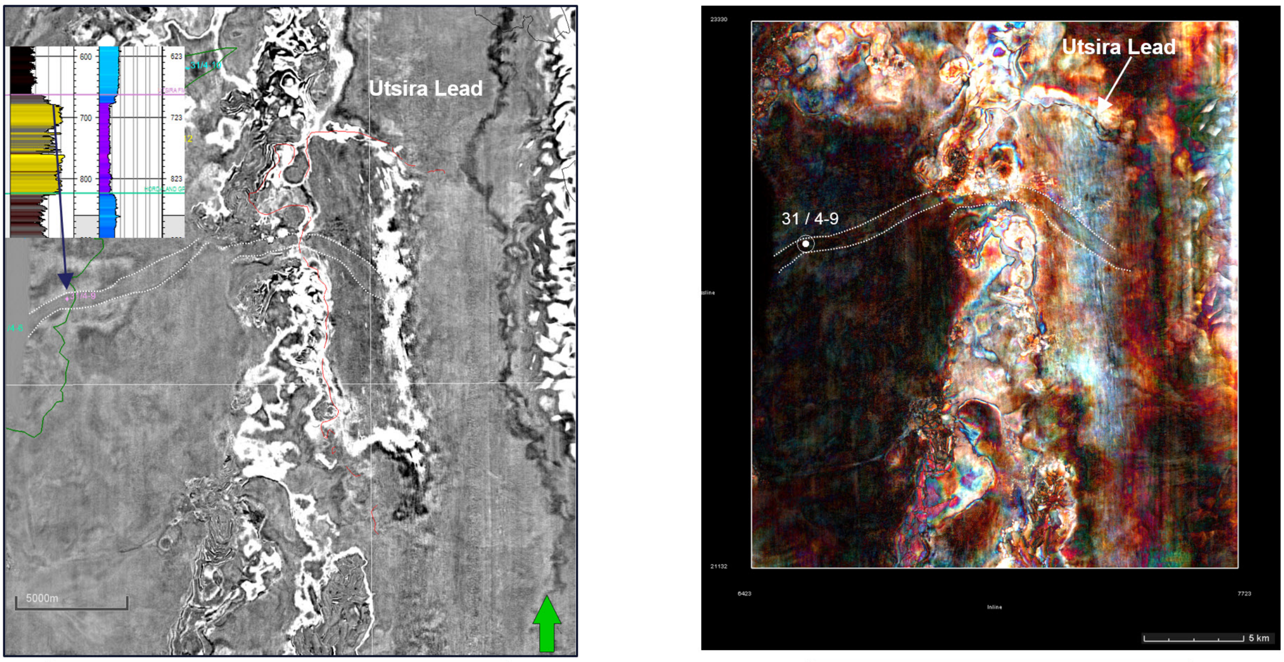


Fig. 4.11 Random seismic line through the Brage Field and the Utsira lead.



Time slice in the CGG survey - 820 ms

RGB 17_24_31/ Time :- 820 ms

Fig. 4.12 Frequency Decomposition map (RGB) for the Utsira lead.

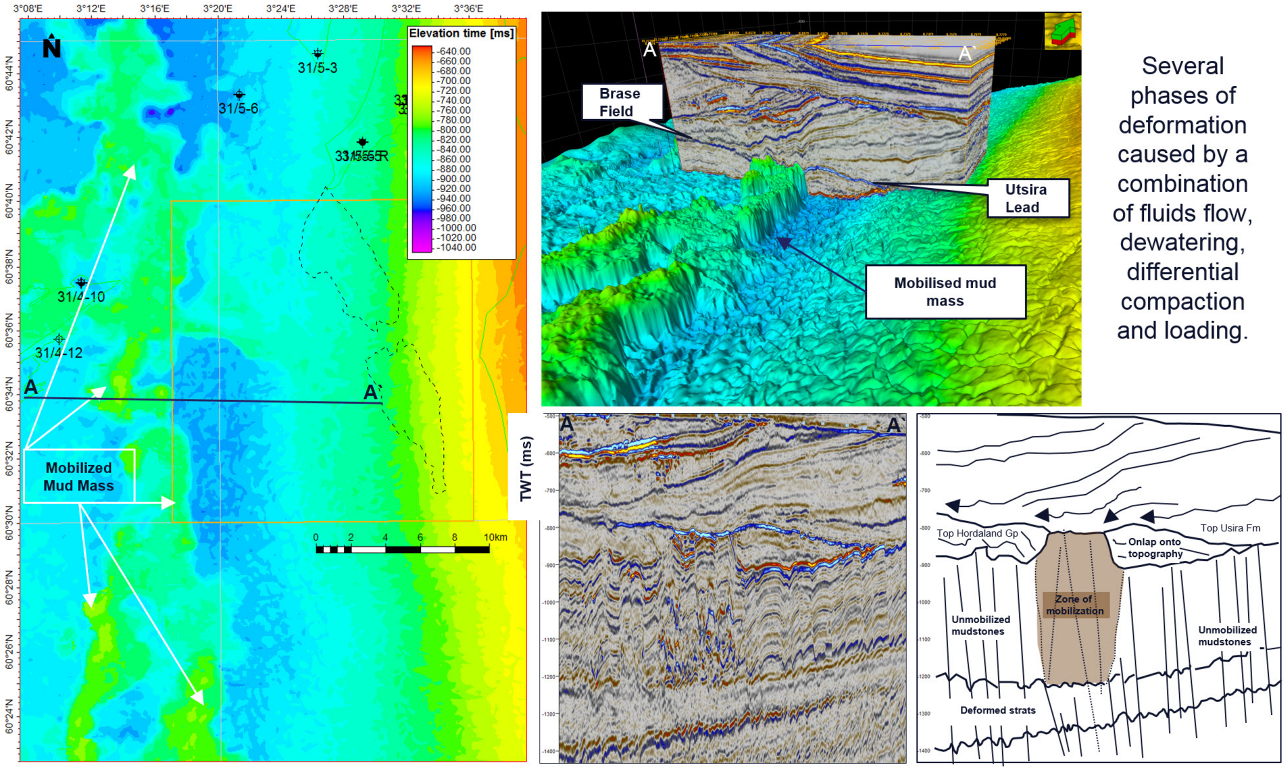


Fig. 4.13 Near top Hordaland Group map (TWT).

Fig. 4.14 displays a seismic line showing the connection between the eastern and the western sand systems. There was no strong evidence observed on the seismic to see a direct migration of hydrocarbons from the Draupne formation source rock below the structure. Some shallow gas anomalies were identified («peon»-type), but volumes are too small.

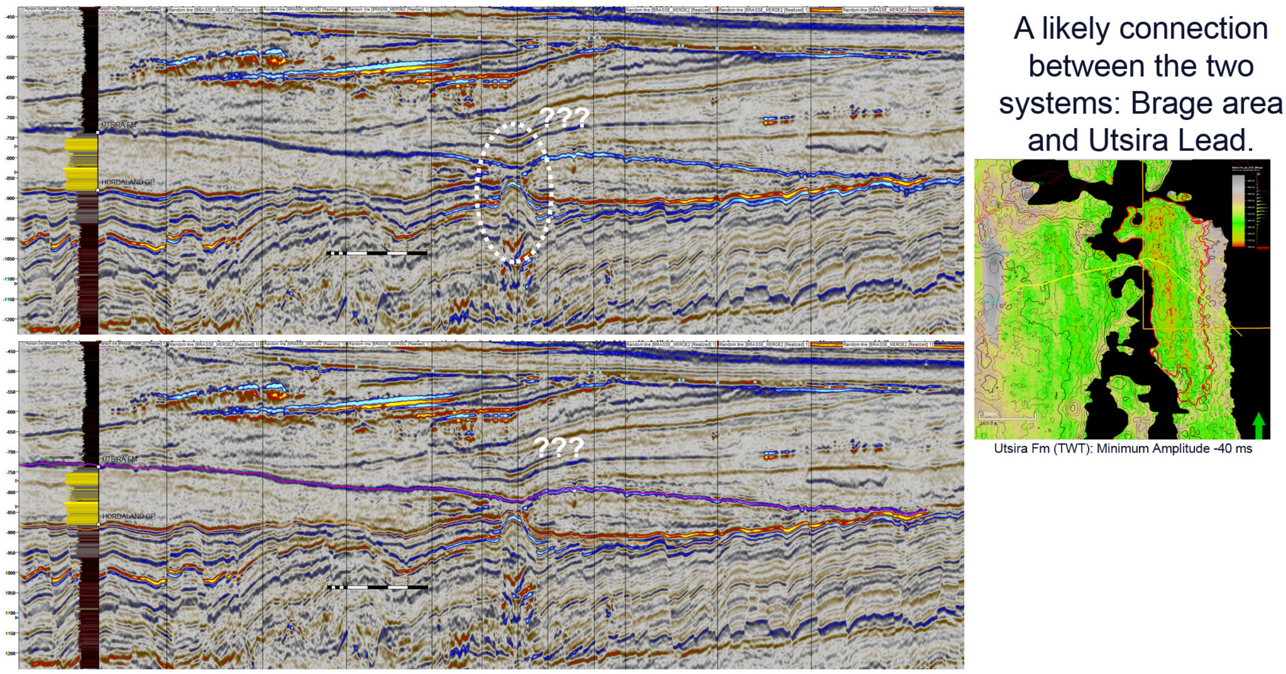


Fig. 4.14 Composite seismic line shows the connection between the Utsira interval in the Brage area and the Utsira lead.

The Zulu Discovery located way more south from the Utsira lead was used as an analogue. The operator discovered several similarities and differences between those two. It has also been suggested that when gas leaks into sand deposits it can cause instability and remobilization. Chaotic sand bodies like observed in the Zulu sand reservoir may be an example of gas-induced remobilization.

The Utsira lead has been ranked as a very high risk lead due to problems to separate the Utsira sands within the lead from the drilled water filled upflank sands to the West and challenges related to hydrocarbon migration in to the lead.

Southern Lead

The Sognefjord formation Southern lead was described in the APA 2015 Application. The identified closure based on 2D data was very small, but distinct. New interpretation of the Sognefjord interval using new CGG17M01-NVD 3D data and new observations were made and shown in Fig. 4.15. Based on a new Sognefjord formation interpretation, no trap or associated anomaly have been identified on the seismic and any seismic attributes (Fig. 4.16). In addition, the migration challenge still remains.

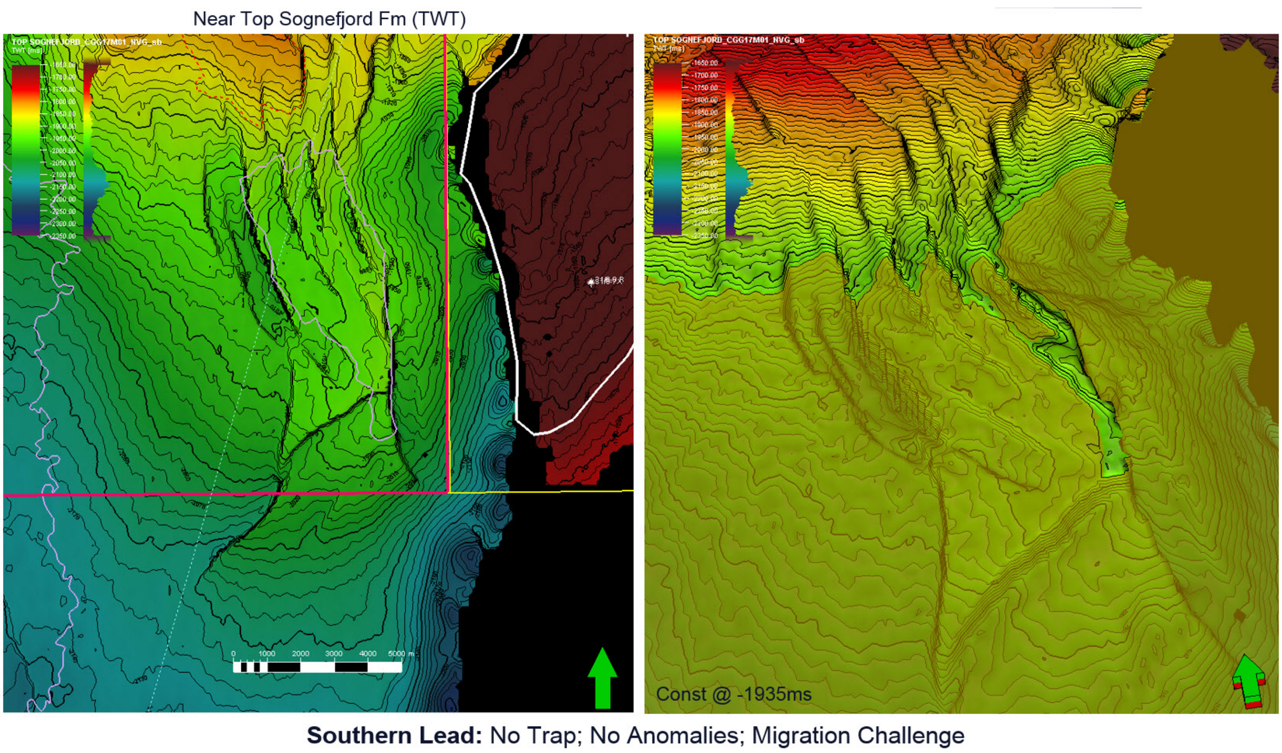
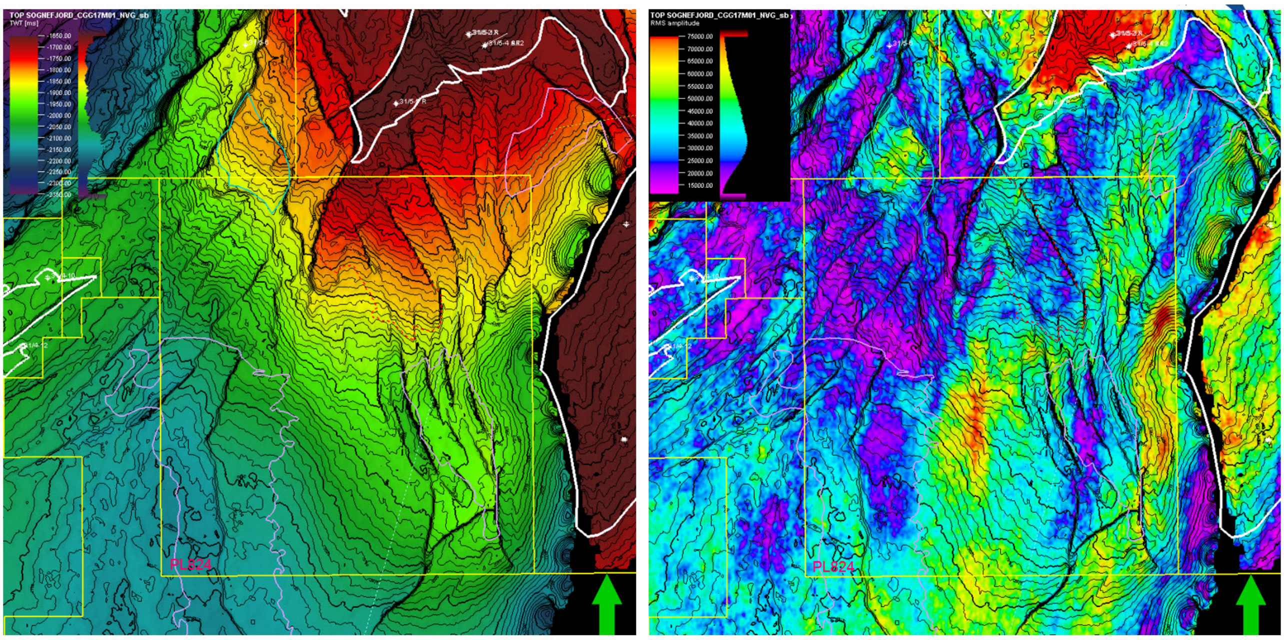


Fig. 4.15 Sognefjord formation map (TWT) over the Southern lead.



Near Top Sognefjord Fm (TWT) RMS Amplitudes (-100ms)

Fig. 4.16 RMS map at the Sognefjord level (TWT).

After detailed mapping of the Sognefjord formation within Southern lead it is possible to conclude that there is no significant trap which can hold any commercial volumes which can be interesting for the license group.

Eocene-Paleocene Prospectivity

An intra-Balder gas play (Eocene Intra-Balder sandstones) has been identified in PL824 and can represent a possible turbidite canyon-basin floor system. The mapped high amplitudes could represent gas charged sandstones, charged from the Kimmeridgian source rock. Migration into the Tertiary could have occurred along deep faults and along porous carrier beds. The closest well that penetrated this amplitude play is #30/9-23, where the Balder section is shaly with occasional tuff and very fine sandstone intervals. Based on an RMS amplitude map, the proximal part of the canyon system lies only partly within PL824 (Fig. 4.17). There was no structural trap identified at this interval and based on the #30/9-23 well, a Relative Acoustic Impedance response should be more bright (red) for a hydrocarbon filled sandstone (Fig. 4.18).

Eocene Intra Balder sandstones - An intra Balder gas play has been identified in the PL824. The map is representing a possible turbidite canyon-basinfloor system. The mapped high amplitudes could represent gas charged sandstones, charged from the Kimmeridgian source rock. Migration into the Tertiary could have occurred along deep faults and along porous carrier beds. The closest well that penetrated this amplitude play is 30/9-23, where the Balder section is shaly with occasional tuff and very fine sandstone intervals. Based on the amplitude map, the proximal part of the canyon system lies only partly within PL824.

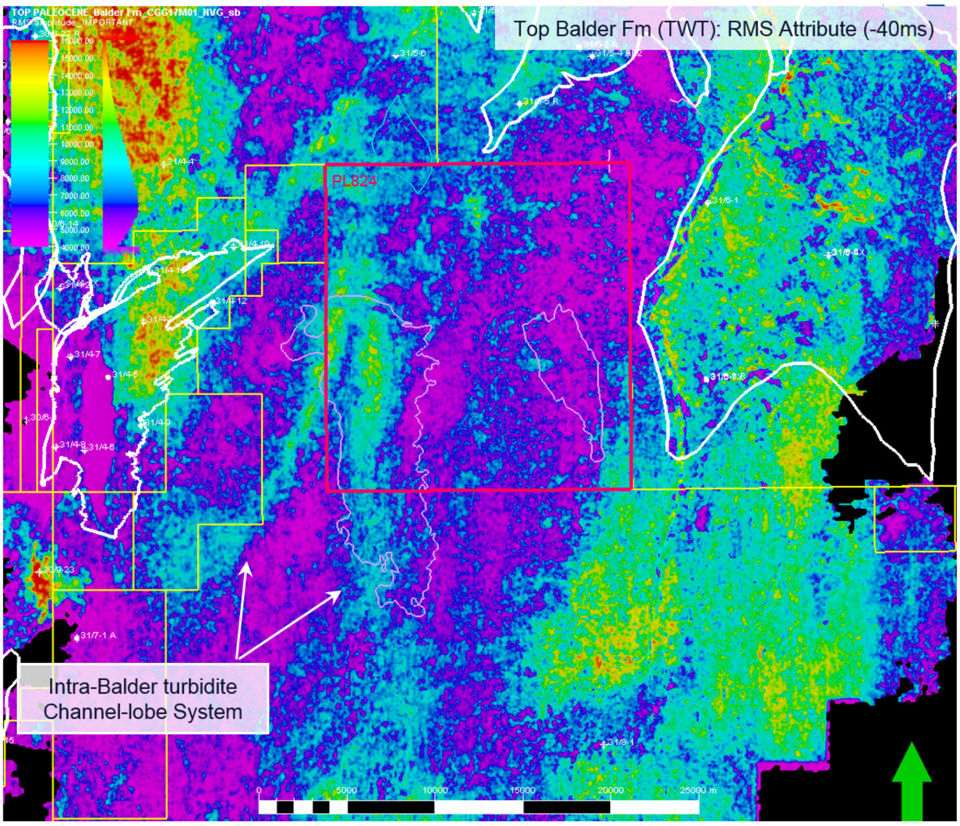


Fig. 4.17 RMS Attribute map at the top Balder formation (TWT) (-40ms)

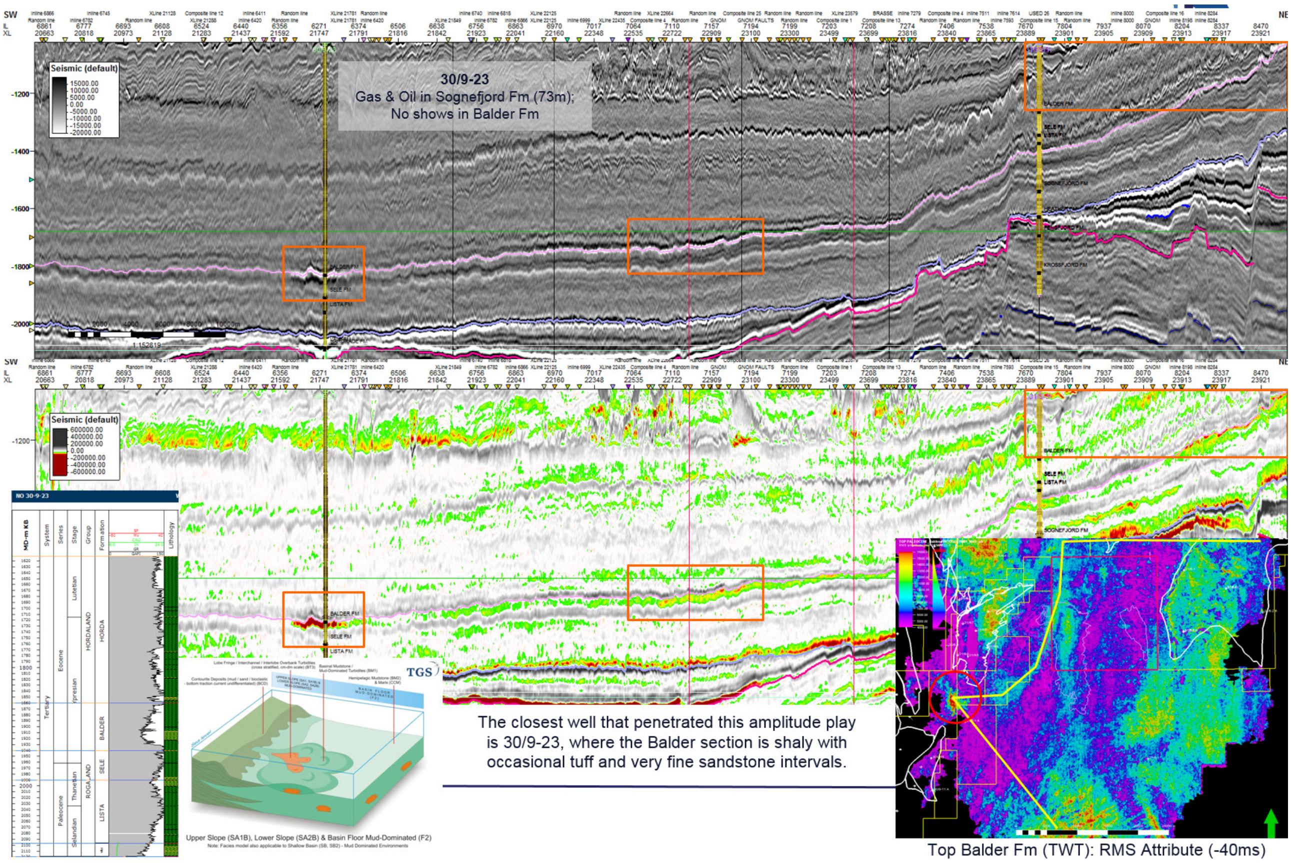


Fig. 4.18 Random line between #30/9-23 and the possible canyon-basin floor system at the Balder level.

Cretaceous Prospectivity

Thorough work has been done with the Troll wells to understand the top Sognefjord formation boundary. Significant erosion of the Sognefjord formation seen in the Troll area is supporting a «Sognefjord re-deposition model». The complex post-Sognefjord history has been generating several intra top Sognefjord - top chalk unconformities. No evidence has been found of significant re-deposited Sognefjord sand deposition within the license area.

There were several anomalies of Cretaceous age interpreted and evaluated. One stratigraphic trap at the Upper Cretaceous level was identified and even evaluated further. From the seismic it's possible to see a flat event which can represent the contact. This trap is above the regional Troll OWC, but located almost fully within the Troll license to the East.

Other Jurassic Prospectivity

A new intra-Brent Group interpretation was performed, but no traps nor anomalies were identified.

5 Conclusion

The evaluation of the license area has contributed to increase the understanding of the prospectivity in the area.

Detailed investigation using the new CGG17M01-NVG 3D seismic dataset has shown that the Gnom structure likely is in communication with the Troll structure and cannot hold hydrocarbons of commercial interest.

The list below summarizes the reasons for relinquishment:

Gnom Prospect:

- The Gnom structure has only minor structural closures which are likely in communication with the Troll structure;
- All critical faults have small fault throws with low SGR-values and are unlikely to seal;
- There is not enough evidence to support the migration model due to all paleo-contacts were above the crest of the Gnom trap;
- The geophysical analysis gives no DHI support;
- The resulting Gnom prospective volumes are small with low POS.

Utsira Lead:

- The Utsira lead is likely in communication with the up-flank drilled water filled sands over the Brage Field;
- There are several challenges related to hydrocarbon migration in to the Utsira lead.

Southern Lead:

- There is no significant trap which can hold any commercial volumes;
- There are several challenges related to hydrocarbon migration in to the Southern lead.

Based on the evaluation, the partnership has concluded that no drillable prospects are identified within the license acreage, and it has been decided to drop the license prior to the DoD deadline.