Norwegian Continental Shelf

Relinquishment Report

PL044 B and PL 044 C
Parts of blocks 1/9 and 2/7

ConocoPhillips Statoil TOTAL eni eni norge

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1 Key License History

Production licsense PL044 B & C are located in the central graben and consist of parts of block 1/9 (figure 1.1)

The license PL044B was awarded on February 7th 2014, and covers most of the area of the mapped Upper Jurassic Landegode lead. The remaining area was awarded as PL044C on February 6th, 2015.

Fig. 1.1

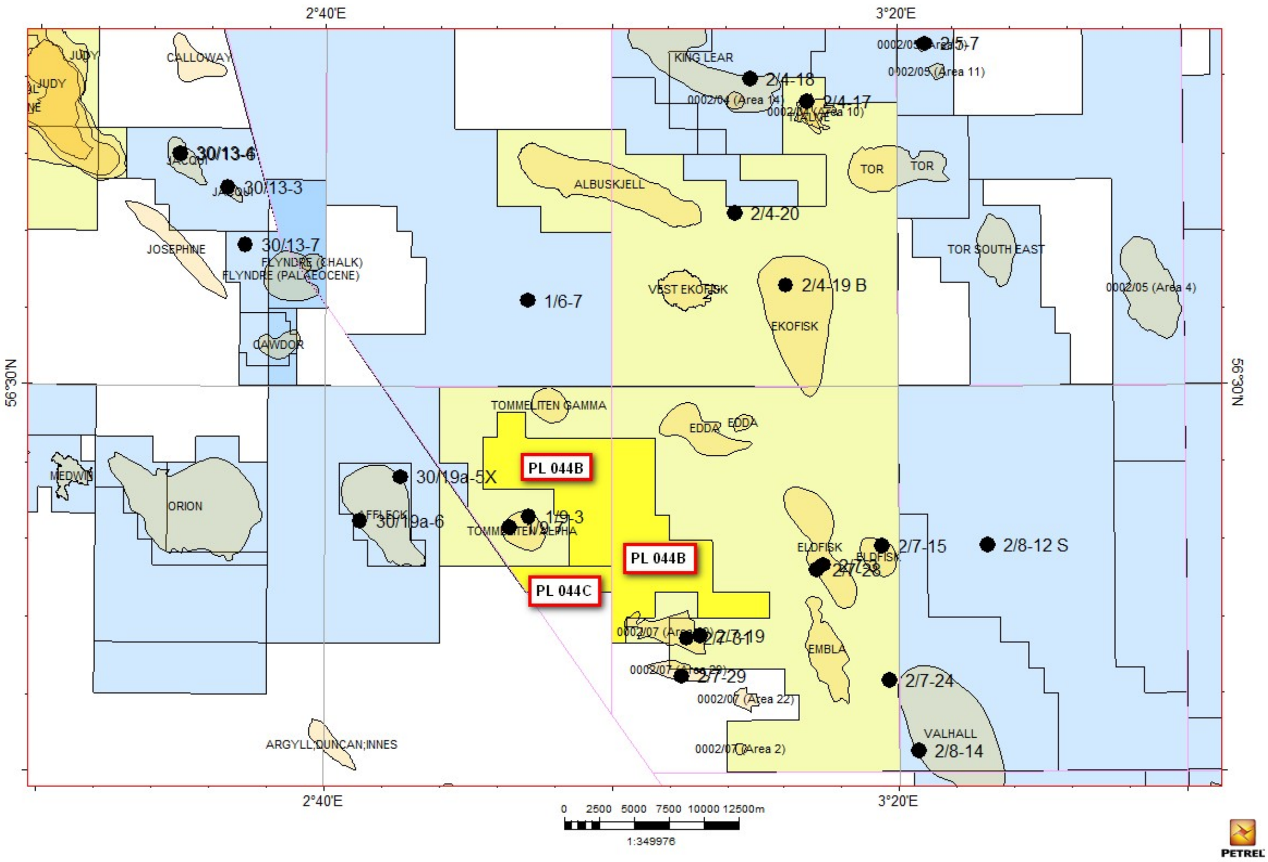

Fig. 1.1 License Area PL044 B and PL044C in yellow, PL018 in pale yellow.

The partnership consist of

- ConocoPhillips Skandinavia AS 41.88 % operator
- Statoil Petroleum AS 30.00 %
- Total E&P Norge AS 15.00 %
- ENI Norge AS 13.12 %

The PL044 B and PL044C license work obligations are listed below

- Perform G&G studies
- Acquire 3D Sesimic

Due to the late arrival of the final 3D seismic dataset (MC3D-CGRN13) for the PL044B/C, a one year extension to the Drill or Drop decision for PL044 B&C was granted in 2016 with the following addition to the workprogram:

- Additional studies during the 1 year extension
    - Drillability, including JV alignment on prospect characterization, well placement and planning including detailed pore pressure, fracture pressure and rock mechanics, formation evaluation feasibility and drilling cost reductions
- By 7 February 2017 decide whether to drill an exploration well or relinquish the license.

The licence partnership decided to drop the license at the drill or drop deadline 7th February, 2017 based on the conclusion that the Landegode prospect does not fulfil an acceptable combination of risk, volume and commerciallity to justify an exploration well.

1.1 License Meetings

Eight regular EC meetings in addition to several EC work meetings have been conducted in the license period. All meetings were held at ConocoPhillips' office in Tananger.

Fig. 1.2

Date	Activity	Theme
2014_June_05	EC Meeting	
2014_Dec_04	EC Meeting	
2015_May_28	WorkMeeting	Landegode Status
2015_June_04	EC	
2015_Aug_27	Workmeeting	Mapping Status
2015_Oct_07	Workmeeting	InPlaceVolumes
2015_Nov_06	Workmeeting	RecVols
2015_Dec_03	EC	
2016_May_24	Workmeeting	Landegode G&G
2016_June_07	EC	
2016_Sept_27	Workmeeting	DepthConv + updates
2016_Oct_21	Workmeeting	TopSeal and PP
2016_Nov_01	EC	
2016_Dec_07	EC	
2017_Jan_12	EC	

Fig. 1.2 Meetings Listing of EC, MC and workmeetings for the PL 044 B and PL044 .

2 Database

A common license database was established at the beginning of the PL044B license award and expanded during PL044C and project work.

The seismic database for PL044B/C is the PGS multiclient dataset MC3D-CGRN13. The entire PL018 and PL044 is also covered by the same dataset so a coherent 3D seismic dataset is available for the important semi-regional evaluations. This dataset was acquired with broadband acquisition equipment in 2012/2013 and processed through pre-stack depth migration, and represents a modern 3D seismic dataset. The purchase of the MC3D-CGRN13 fullfills the PL044B/C work commitment. PL044B/C is also covered with released 3D seismic data from DISKOS and would be a part of the seismic database available for the license.

Figure 2.1 shows the common data base. The outline of the MC3D-CGRN13 seismic survey and additional seismic data sets are shown together with the key wells.

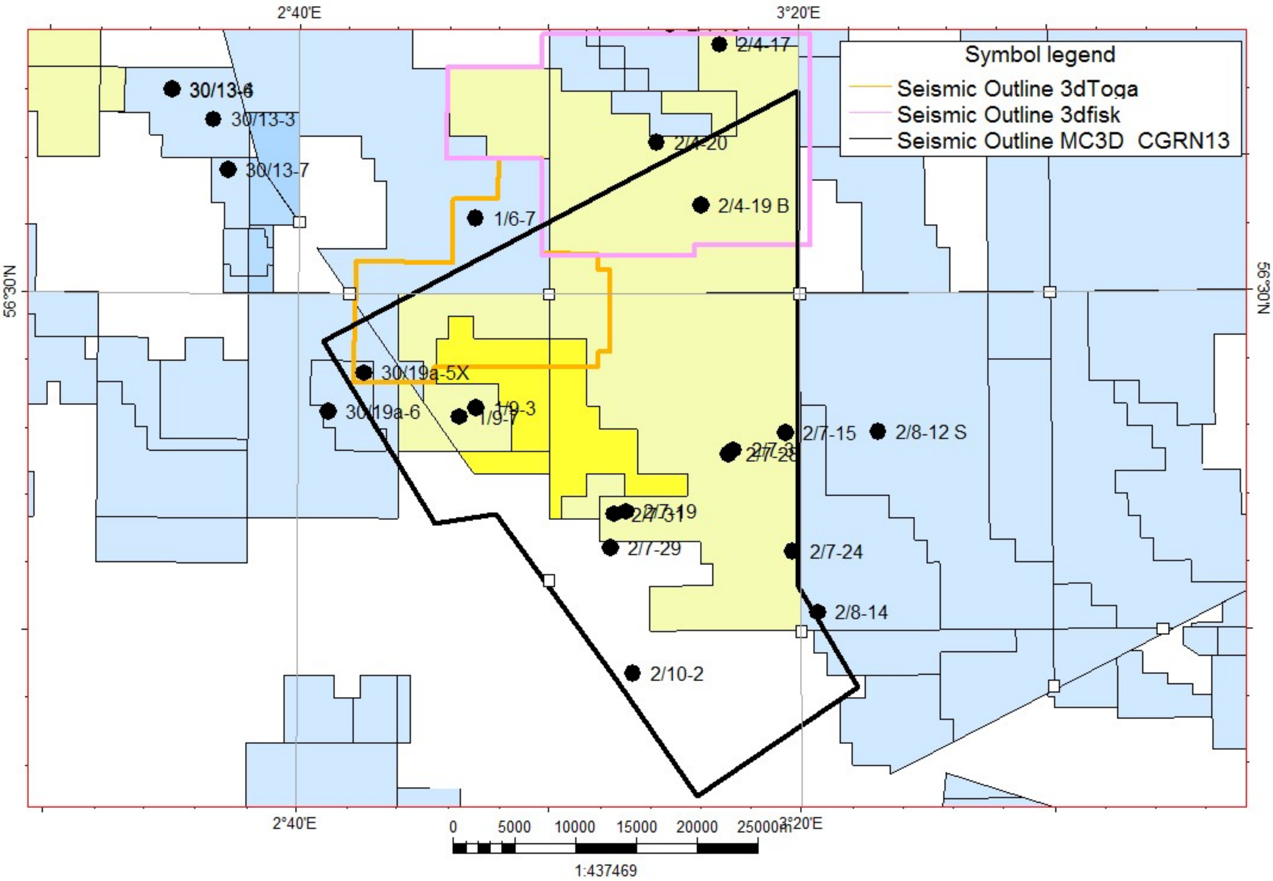

Fig. 2.1 Seismic database. Common database for PL044B/C. MC3D_CGRN13 is the main 3D seismic data.

The well common database consists of all released wells in the area. As King Lear is an important analog to Landegode, ConocoPhillips have tried to trade for the 2/4-21 well, unfortunately both attemts were rejected. The released well data have been used in the evaluation.

3 Review of Geological Framework

Structural and stratigraphic framework

The area of interest is located on the western flank of the Central Graben, north of the Fulmar-Clyde Terrace and Grensen Nose basement high. The structural setting is seen on the regional structural element map in figure 3.1. The Grensen Nose is a long lived structure that is the easternmost of a series of north northwest trending structures developed along the northern margin of the Mid North Sea High. These structures form a major relay zone between rifting in the Central Graben, Feda Graben and ultimately the Tail End Graben. The eastern side of the Grensen Nose is defined by the Skrubbe Fault zone, a major bounding fault to the Feda Graben.

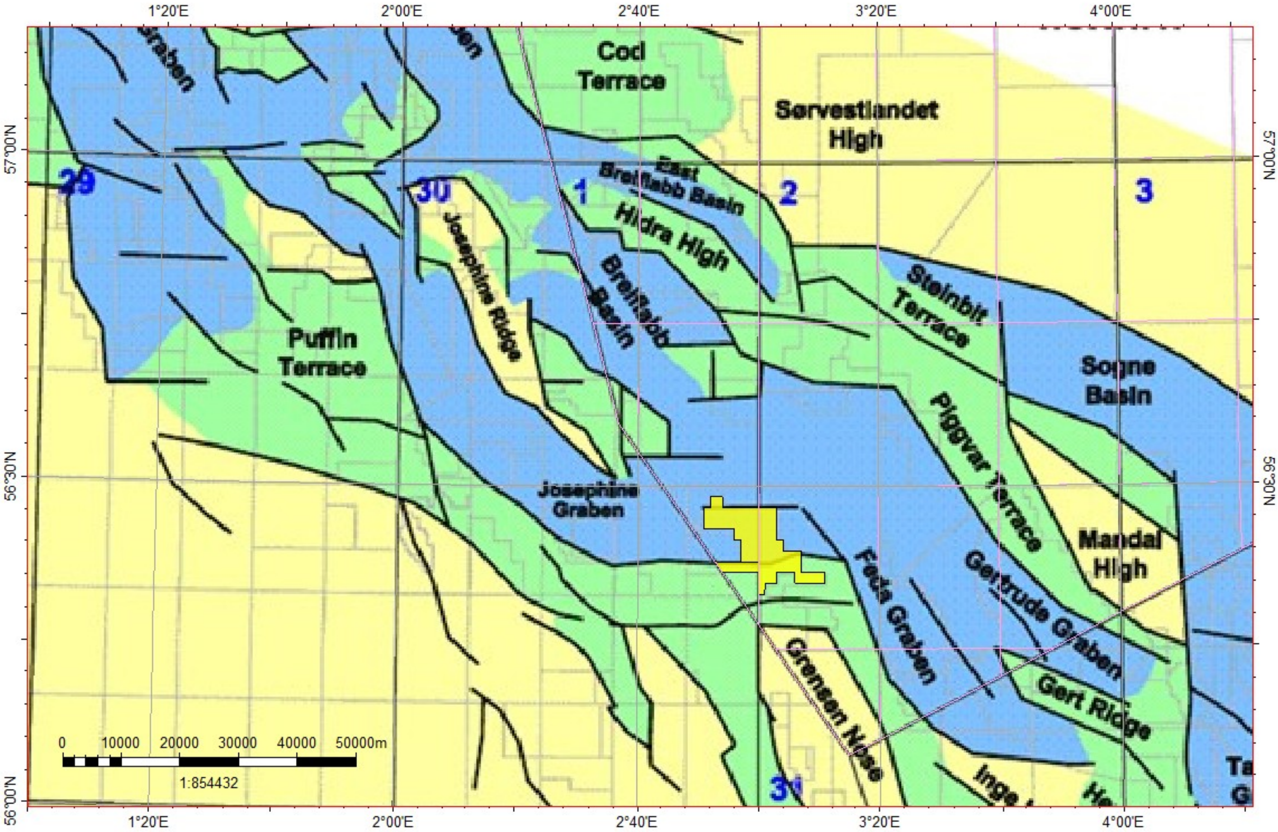

Fig. 3.1 Structural Element Map showing the structural elements of the Central Graben

In the Late Jurassic, reactivation of normal faults coupled with continued marine transgression resulted in the deposition of the Oxfordian to Middle Volgian shallow marine sandstones, both within embayment areas and fringing structural highs. Further development of the relay ramps on the northern margin of the Mid North Sea High provided possible sediment entry points and storage areas for erosion products derived from the MNSH itself. Upper Jurassic sands have been encountered in most wells drilled on highs and terraces around the PL044B/C license. Mass flow sands are also found in several of them, indicating that sand was shed off the highs into the basin at the time.

Wells have been drilled in basinward settings, and a few wells encountered upper Jurassic sands. King Lear and Jackdaw are good analogs for a reservoir development model in a basinal area setting, however sands are derived from the northern flank of the Central Graben. Here thick packages of mass flow sands, shed off the Piggvar and Cod Terraces respectively, have developed in available accomodation spaces. The sands are charged by hydrocarbons expelled from the shales they are imbedded in; source rocks of the Farsund and possibly Mandal Formations. The source rock and reservoirs are within the same formation allowing for a very efficient and straight forward charge model. Top seal is provided by shales of Late Jurassic or Early Cretaceous age.

The only prospectivity identified in the PL044B and C is the Landegode prospect, a combination of a strucutral and stratigraphic trap between the Grensen Nose and the Tommeliten Alpha salt structure. The target interval is located within the Upper Jurassic interval and consists of a sedimentary wedge located in a depression between the Tommeliten Alpha salt structure and the northern margin of the Grensen Nose basement high (Fig. 3.2). This wedge is believed to consist of shale and sand lobes deposited as gravity flows and storm layers shed from the broad and shallow relay north of the Grensen Nose (Fig. 3.3). The reservoir is interbedded with the Upper Jurassic Farsund Fm shales which also represent the source rock and bottom seal. Top seal is made up of J63/64 shales, as well as the J66 shales on top. Lateral seal towards the top of the Tommeliten Alpha salt structure is the shales of the J63/64 sequence.

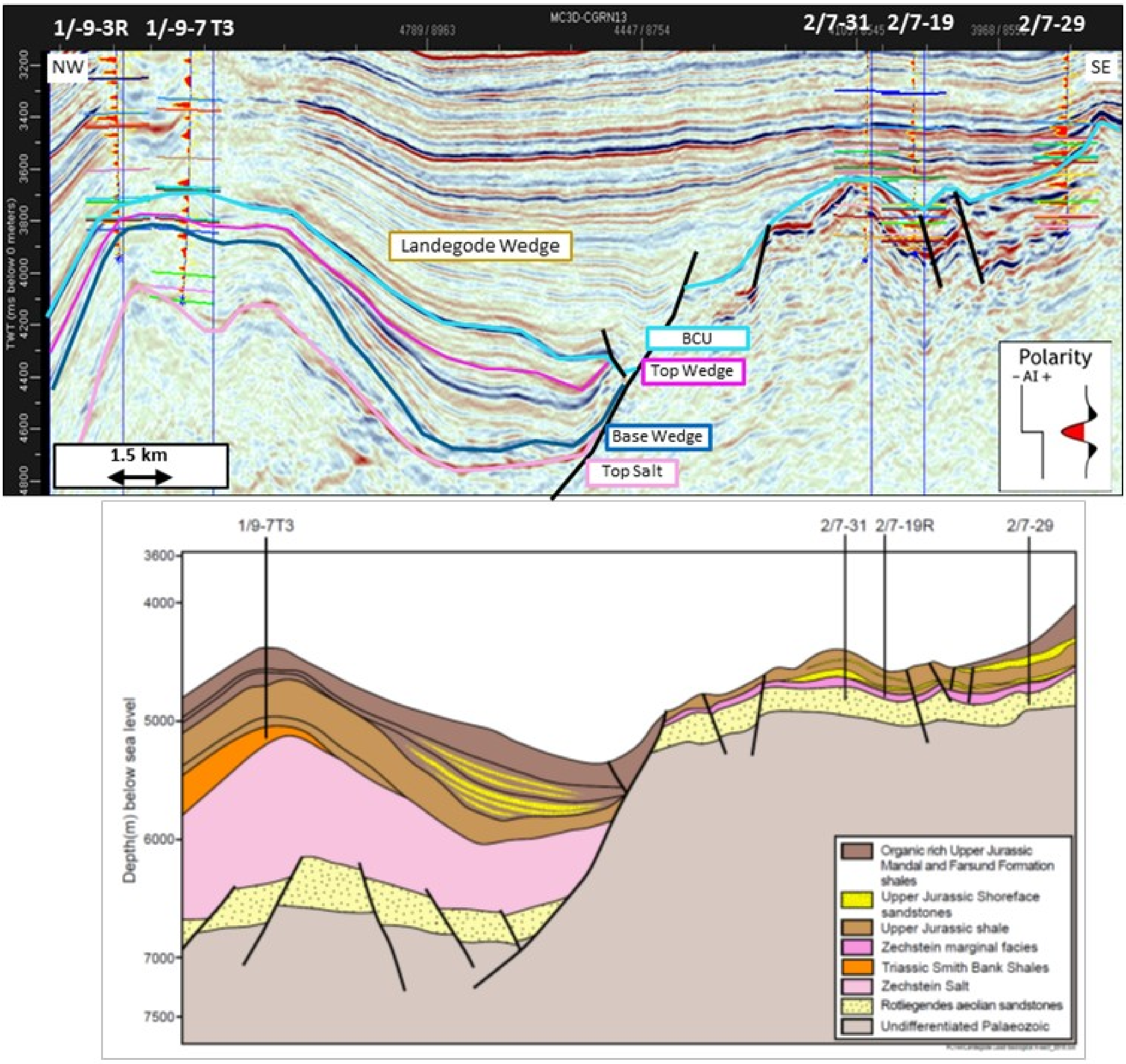

Fig. 3.2 Landegode Prospect Seismic line and cartoon showing the sedimentary wedge stretching from the Grensen Nose to the Tommeliten Alpha salt dome

Fig. 3.3 BCU Structure Map showing the position of the Landegode prospect between the grensen Nose and the Tommeliten Alpha salt structure

The close proximity to the deeply eroded Mid North Sea High is believed to be beneficial for provenance of reservoir sand. The reservoir sands would be of Volgian to Oxfordian age (J62-64 sequence), deposited in the accommodation space generated by what is most likely a combination of salt withdrawal and movement of the rift-related graben bounding fault towards the Grensen Nose. Reservoir presence is a conceptual model with no direct well penetrations in the Landegode mini basin, however there is some support from seismic stratigraphy for sand presence and similar aged sands are located as a shallow marine fringe deposit around the Grensen Nose.

4 Prospect Update

At the time of APA application, the Landegode trap had been loosely described and was considered a lead. Through the time since award, a lot of effort has been put into maturing Landegode into a more or less drill ready prospect. Several special studies have been performed and new data has been interpreted and analysed.

Interpretation:

Detailed mapping of the MC3D-CGRN13 seismic survey has allowed for improved understanding of the trap and the mechanisms for generation of accommodation space. Investigation and analysis of the closest offset wells has guided in an updated top seal evaluation, and as part of a drillability/well planning effort a pore pressure estimate has been done.

A cross section of the Landegode structure from the Grensen Nose to the Tommeliten Alpha salt structure is shown in Fig. 3.2. Updated mapping of relevant bounding surfaces to the wedge as well as detailed fault interpretation and structural restoration of this area, indicates that the accommodation space has been generated by a combination salt withdrawal and movement of the bounding faults of the Grensen Nose. Internal reflectors within the isopach thick were mapped to evaluate the fill history and accommodation space for potential reservoir distribution Fig. 4.1. The resulting isopach map in Fig. 4.2 with the progressive isopach thick overlaid shows that the wedge comprises multiple sequences of growth stratigraphy indicating that the salt withdrawal has taken place as events or pulses, and have caused multiple episodes of relative accommodation space increase. The isopachs shows elongated shapes, some of the isopachs are lobate, and some are more channel-like shaped, which gives small hints of possibly sediment input from the south.

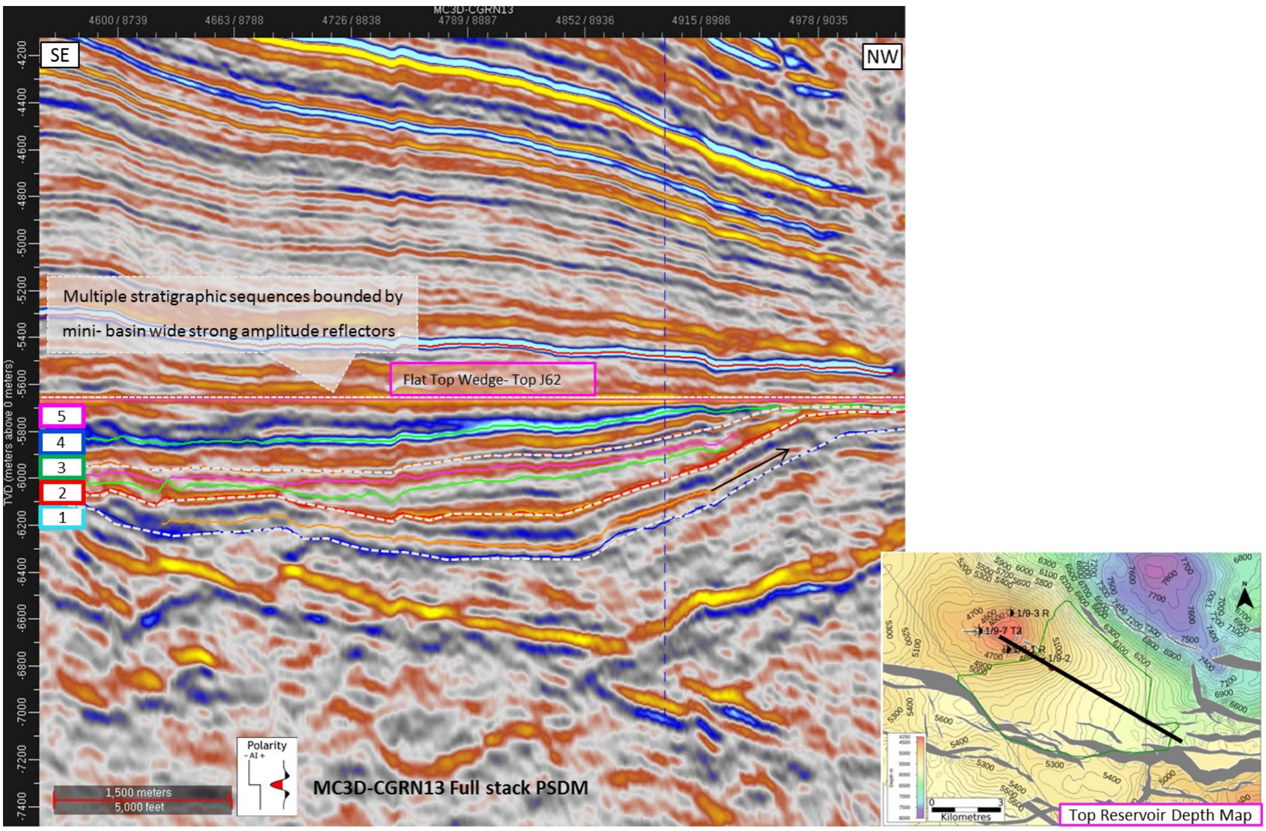

Fig. 4.1 Landegode Internal Reflectors SE-NW Seismic Section across the Landegode wedge. Seismic line showing the isopach thick of the Landegode wedge and the interpretation of mulitple mini-basin wide strong amplitude reflectors

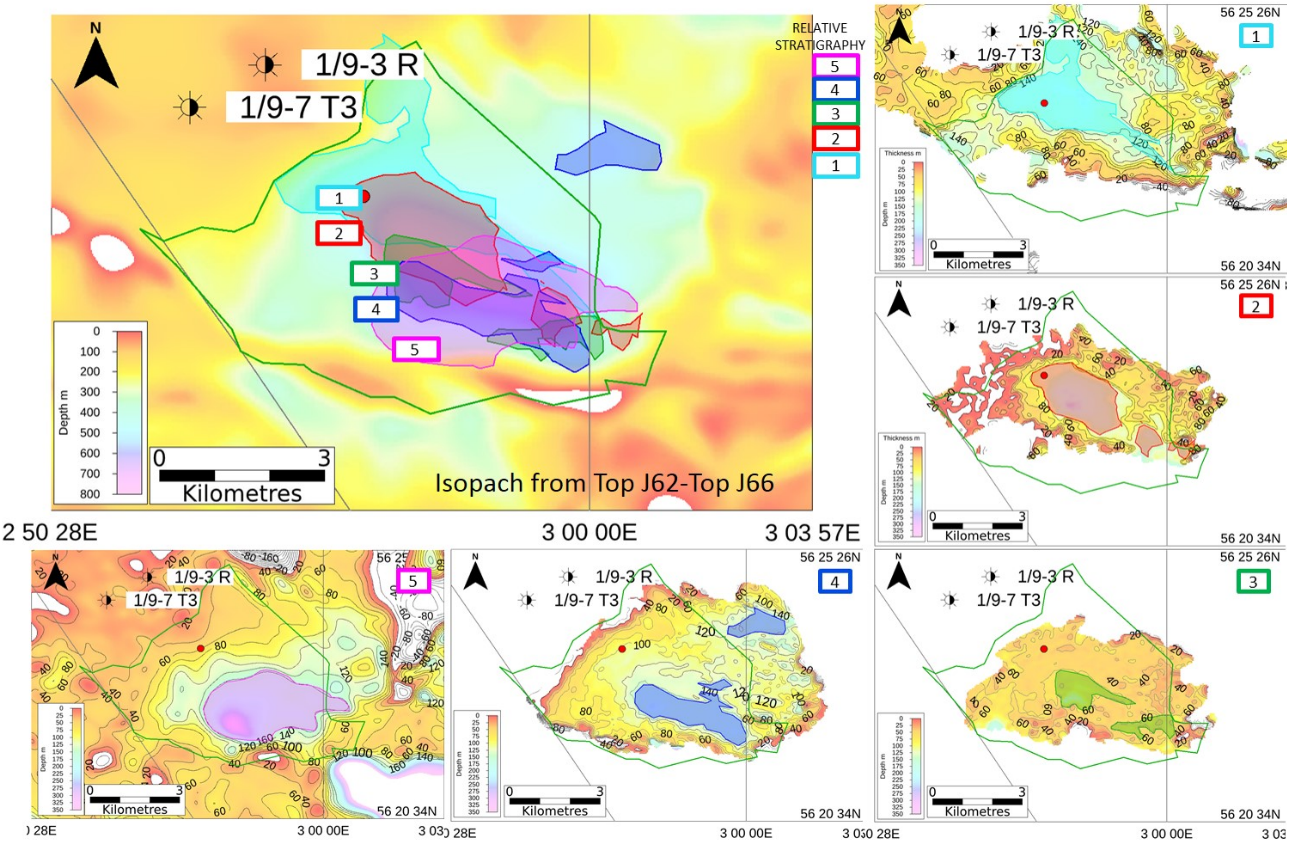

Fig. 4.2 Landegode Wedge Analysis Mapped progressive intervals within the Landegode wedge. Each interval is numbered from 1-5 corresponding to the intervals in figure 4.1

Further detailed mapping of the wedge and seismic stratigraphic studies have resulted in revealing hints of depositional morphologies such as confined channel like features apparently connected to less confined more fan-like feature (Fig. 4.3). However, with the depth of the prospect at > 5000 meters depth, seismic resolution is restricted and the hints described above cannot contribute to reducing the risk for reservoir presence any further. In addition, the shale and the sand are of similar acoustic impedance and seismic attribute analysis of the various peaks and throughs cannot be used for determining the sand shale distribution in the wedge.

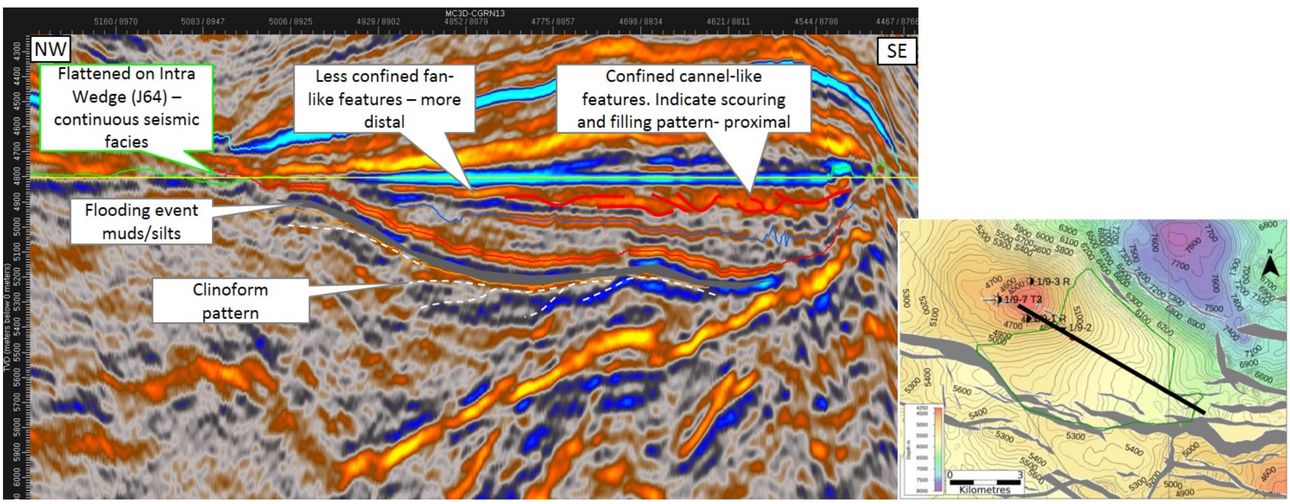

Fig. 4.3 Depositional Morphologies Within the Wedge. The seismic line illustrates some depositional features observed on the seismic.

Trap Geometry:

The trap relies on a relatively complex interplay of faults to the south and south west as well as pinch outs towards the north east and north west up on the Tommeliten Alpha salt structure Fig. 4.4. Fault seal analysis was run on the fault to the southwest, generically assuming a relatively shale-prone fault zone. The fault is a complex en-echelon structure that has also evolved together with salt evacuation. It is expected to form a pressure cell boundary with potentially up to 3000psi pressure step across it. Given this behavior, the fault zone is expected to have low permeability, consistent with a shale-prone fault rock. The fault is located approximately 400m deeper than the trap crest, so it only affects trapped columns with a magnitude greater than this. Sand-sand juxtaposition across the fault is not known and is beyond the resolution of the seismic mapping. Because of its location and seal potential, the fault is not considered to significantly affect (control) trap columns in Landegode even in the cases where across-fault leakage can occur, enhanced by the large hydraulic head difference. This is because the potential of the Landegode trap to hold a hydrocarbon column is largely controlled by what occurs at the trap crest in terms of seal lithologies and pore pressure.

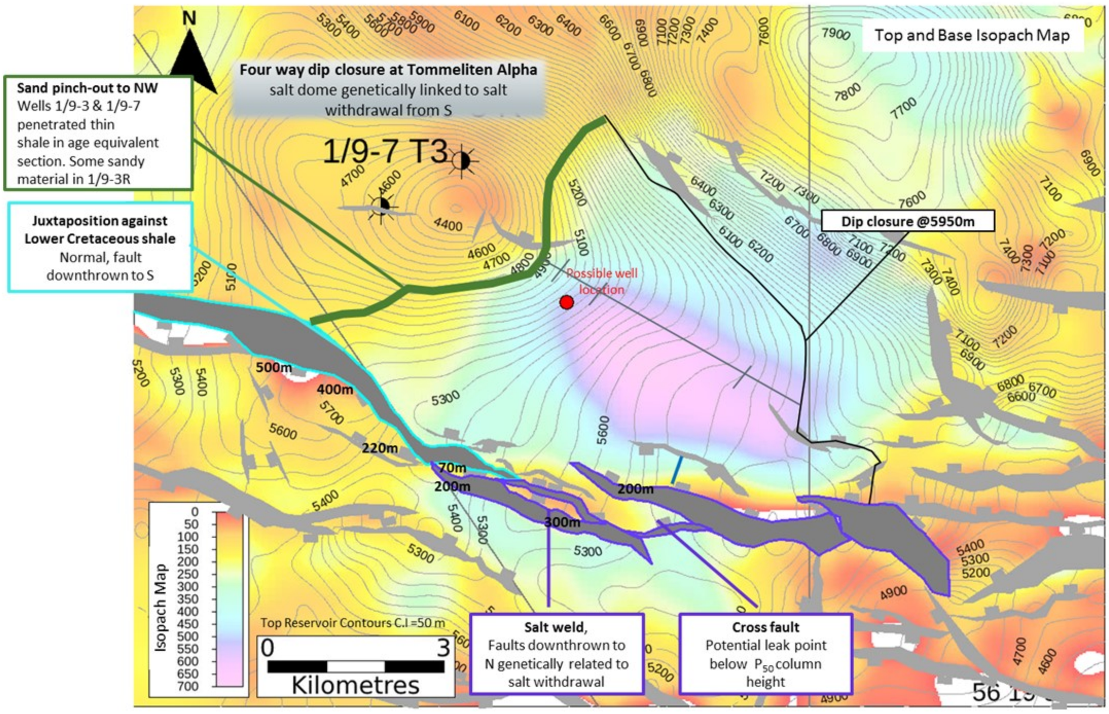

Fig. 4.4 Landegode Trap Map describing the different trap elements

The pinch out to the north west up against the Tommeliten Salt structure has been studied in detail. The pinch out line is interpreted to be where the internal reflectivity between the J63/64 and J62 reflectors dissapears, but it is essentially impossibe to pin point exactly where the sand interval dissapears. The properties and seal capacity of this pinch out is included into the top seal capacity modelling as described below.

Seal:

The top seal rock for the Landegode prospect is the shales of the J66 sequence (Volgian age) and laterally on the Tommeliten Alpha salt structure the J63/64 shales (Kimmeridgian-Volgian). In the updated top seal capacity evaluation for Landegode prospect, the two closest offset wells 1/9-7 and 1/9-3 were used as proxy for the top seal rock. From well logs, sections within both the J63/64 and J66 intervals appeared relatively silty. From Qemscan analysis of the cuttings from the wells, both silt and sand (low percentage) are present in the relevant intervals in the 1/9-3 well. The analysis found lower amounts of silt and no sand in 1/9-7. It was therefore considered necessary to evaluate the Landegode trap with both a shaleprone ranging to more silty top seal.

Seal integrity has been modelled using the approach of Yang & Aplin (2004) where Vclay and porosity are combined to estimate shale permeability. Assuming representative fluid properties (including hydrocarbon interfacial tension) it is then possible to convert the shale permeability into an estimate of the capillary seal capacity of the top, side and bottom seals to the Landegode trap. This is done in a Monte Carlo model and rolled up with estimates of the mechanical seal strength. The mechanical top seal strength is based on estimates of the fracture strength, failure mechanism (shear or extensional fracturing) and pore pressure. Key to estimating a potential trapped column within the Landgode trap is therefore an estimate of the likely pore pressure range for the target J62-J64 reservoir.

The top seal work also included the possibility of the presence of a waste zone extending up towards the Tommeliten salt diapir (a waste zone is defined as a permeable zone having limited GRV (pore volume), but which possesses hydraulic continuity from a pore pressure perspective (Fig. 4.5)). This would yield a mechanical trap crest shallower in depth than mapped, but with no uplift to trap GRV or overall description. The waste zone is a hypothetical zone similar to having a permeable fracture that extends to shallower levels above the trap. The upper depth of this waste zone is given a variable range to reflect uncertainty in its extent.

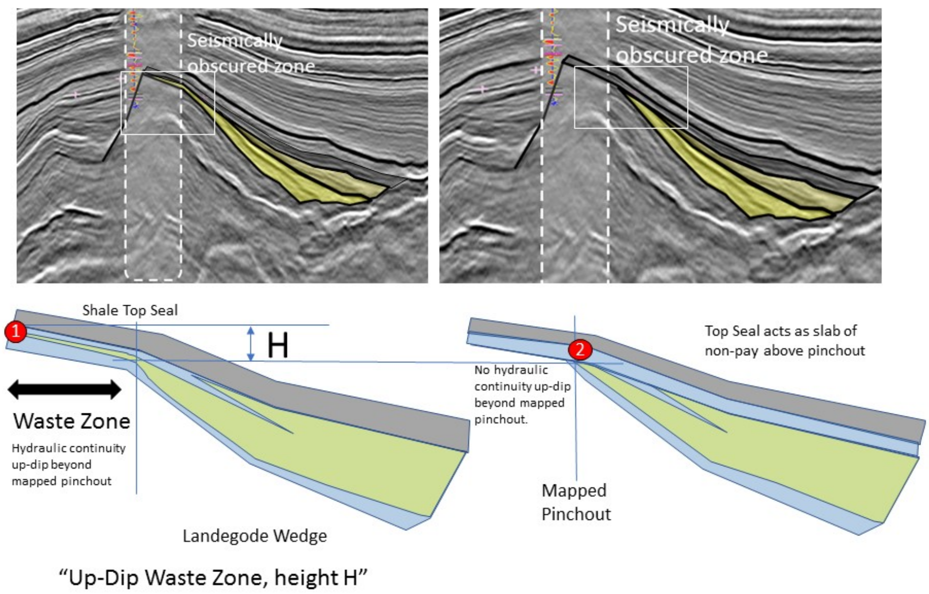

Fig. 4.5 Landegode - Waste Zone Concept A potential waste zone has impact on the column height

Based on recognition of variable top seal lithology (shale and/or siltstone) and the presence/absence of a waste zone up against the Tommeliten salt wall, four seal and trap models have been run to assess the impact on potential columns that might be trapped in the Landegode structure:

1.Shale seal, no waste zone

2. Siltstone seal, no waste zone

3. Shale seal, waste zone present

4. Siltstone Seal, waste zone present.

This was done in a Monte Carlo model. Each of the scenarios generated individual potential column height distributions and failure risks. These were then rolled-up to create an overall column height model for Landgode.

Column Height:

The pore pressure range used as input in this evaluation was based on the 2016 PPFG work done by ConocoPhillips (described below). This centroid-based pore pressure estimation indicated the possibility of very high pressure and the outcome ranges were relatively narrow. To allow for the chance of lower pressures, the range was opened up to include a lower P10. The P10 is in line with the 2015 pore pressure estimation, and as such both versions are used in the final column height distribution. Final range (P10-P50-P90) used was 6400-7400-8300psi (440-510-570bar) overpressure. The combined mechanical and capillary top seal evaluation roll-up gave a column height range of (35-335-700m (P10-P50-P90)). The P10 case was adjusted to 150m to approach measureable and interesting minimum volumes to risk for change of success.

Number	Trap Component Name	Abrev	Use	Probability	Dependency
1	Shale Only Top Seal (no waste Zone)	1	Y	0.4	S
2	Shale Top Seal with Waste Zone	2	Y	0.17	S
3	Silty Shale Top Seal (no waste zone)	3	Y	0.3	S
4	Silty shale Top Seal and waste Zone	4	Y	0.13	S

Only success case columns (within Trap) are rolled-up.

Example User- Defined Probability

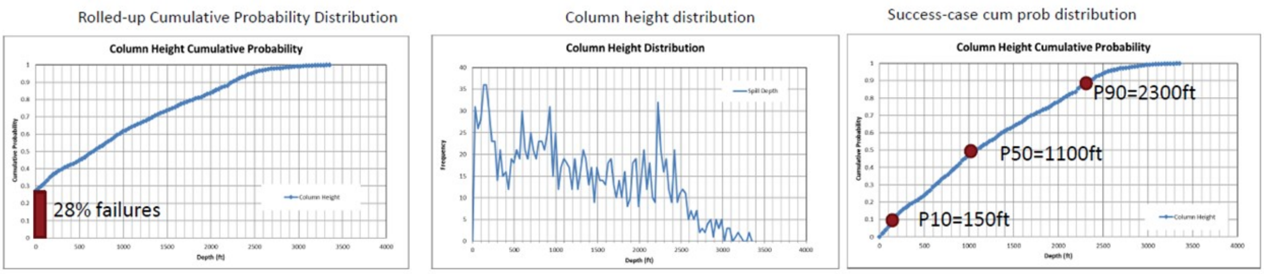

Fig. 4.6 Landegode Columnheight Evaluation Four different top seal models were rolled up using a Monte Carlo model. All four had been given a probability going into the roll up. The outcome column height estimations gave a range from 35-335-700m

Pore Pressure Predictions:

Pore pressure estimations have been done twice for the Landegode prospect during the time since the license was awarded. The results from the two evaluations are different, as different methodology were used for the two. The 2016 pore pressure estimate is based on a mechanistic model at a proposed well location approximately 400m off the crest of the structure. The model assumes that the sands are isolated and thus exist within their own pressure cell. Pore pressure for the reservoir sands was predicted by accounting for pressure transfer or centroid affects for dipping sandstones within an overpressure shale. The prediction of shale overpressure was based on the estimation of shale pressure at the nearby 1/9-7 and 2/7-31 wells and projecting to greater depths at Landegode after establishing a predictable shale pressure gradient for Jurassic shales in the area. Estimated pore pressure profile for proposed well location in Fig. 4.7.

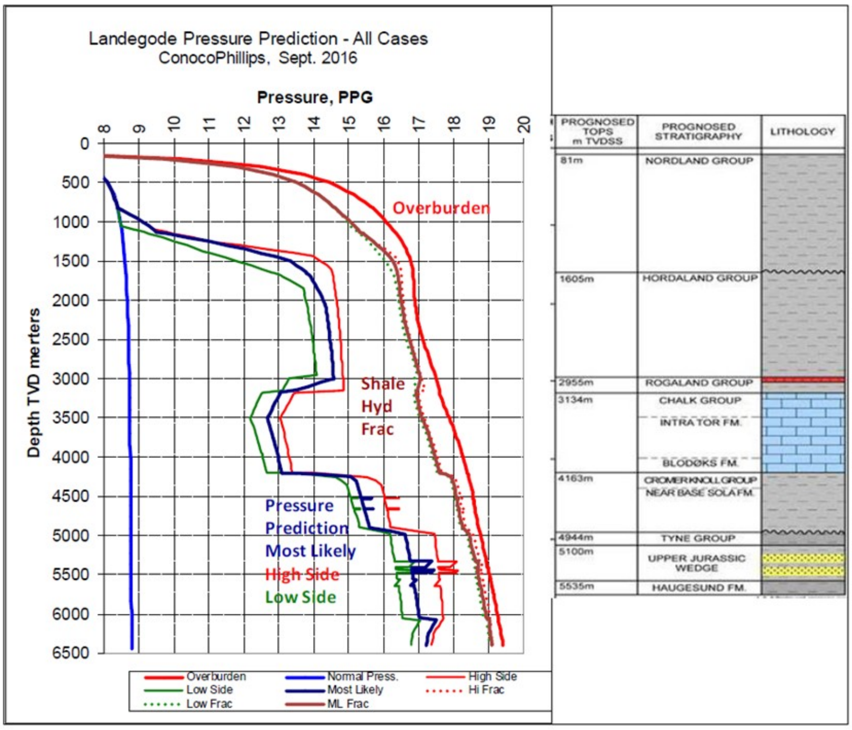

Fig. 4.7 Landegode Pore Pressure Estimation at a proposed well location at the Landegode prospect

This methodology gives higher pore pressure estimates to the ones from 2015, where pore pressures were evaluated using a more empirical approach, that assumes that all the late Jurassic sands in an area tend to have similar magnitudes of overpressure. The estimate is not mechanistic and does not account for the potential existence of more isolated sands of higher pressure than those currently encountered in regional exploration wells, such as King Lear. This approach can be considered a minimum for Landgode especially when it comes to well planning and design and requires a permeable pathway exists from the sands in the Landegode basin around the Tommeliten salt wall to the 1/9-3 well, the nearest penetration with pressures measured in late Jurassic sands. Any barriers between Landegode and this well may isolate Landgode and allow for higher pore pressures to exist. In this case the alternative pore pressure scenarios described in the 2016 Model would be appropriate.

The latest pore pressure estimation made by the Operator was not supported by Statoil. The key difference in Statoil's pressure review is that it is derived from empirical local pressure observations from reservoir penetrations and pressure cell mapping, while ConocoPhillips has used the centroid model and shale pressure trends. Statoil's estimations for expected pore pressure for the Landegode prospect is >100bar lower than ConocoPhillips' 2016 estimations, more consistent with the 2015 methodology and results.

Due to these alternate opinions, a thorough review of the 2016 effort is given below.

2016 Pore Pressure Estimation

The range of expected pore pressure in the Landgode trap was calculated by ConocoPhillips' pore pressure expert in Houston as part of the drillability/wellplanning/well placement effort. The estimations were made for a well location approximately 400m down flank of the crest of the structure. The method used was to integrate available pressure and mudweight data in offset wells 1/9-7, 1/6-6/ 2/7-31 & 2/4-18 to build an understanding of pressure trends and ramps related to stratigraphy. Overburden was derived from integrated density logs and LOP data used to help evaluate the minimum horizontal stress. The end product of this analysis was an estimate of shale pore pressure within the Mandal-Farsun interval. The results indicate a shale pore pressure gradient in the range 0.95-0.98-0.985 psi/ft.

Because the geometry of Landegode is a dipping wedge of stratigraphically confined strata, it was deemed appropriate to use a centroid model in evaluating likely pore pressure. This model describes pressure transfer from the basin to the structural crest via a permeable reservoir pathway. The overall pore pressure within the closed system is given by the encasing shales but due to fluid movement, pressure within the sands is redistributed with higher pore pressure extended upwards to the crest and a sympathetic pressure reversal occurring down-dip towards the base of the sand wedge. The cross-over depth from reduced to inflated pore pressure within the permeable sands (relative to the bounding shale) is called the centroid depth. A range of pore pressures can be estimated based on varying the geometry of the trap (basin floor-crest elevation), the shale pore pressure curve and the centroid depth.

Pore pressure is expected to be relatively high from 16.7 to 17.4 PPG (2.0 to 2.08 SG) within the Jurassic section down-dip from the Tommeliten Alpha wells 1/9-3 and 1/9-7 to the northwest and the Ebba well 2/7-31 to the southeast which experienced several high pressure flows in the Cretaceous Cromer Knoll and Jurassic section from 16.86 to 17.95 PPG (2.02 to 2.15 SG). Pore pressure of the expected sandstones within the thickened Jurassic wedge targeted by Landegode from 5300 to 5600m is expected to be enhanced at the well location which is towards the crest of these sands. The results indicate an overpressure range from 7200 to 8500 psi (496-586bar) within the J62 sands at this depth at Landegode.

The new mapping and evaluation has not changed the probability of a discovery significantly. Ps is calculated to 27%, and the main risk is reservoir quality and seal & retention. An update of the top seal capacity, with a closer evaluation of the offset wells 1/9-3 and 1/9-7, as well as thorough modelling of the pore pressure, led to a reduction of the potential hydrocarbon column of the prospect.

Volume calculations:

The final Landegode hydrocarbon volume range is calculated to 4-33-246 MMBOE recoverable. The outline of the P10, P50 and P90 is shown in figure 4.8. As currently mapped, the P50 extent is within the PL 044 license, with the upside in License PL044B and PL044C.

Fig. 4.8

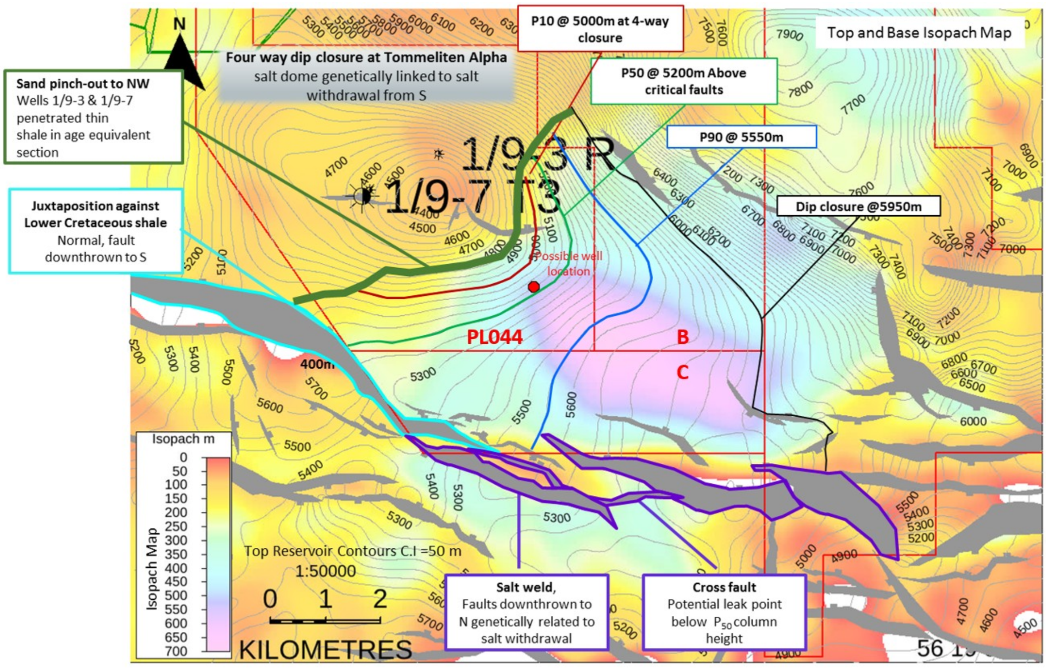

Fig. 4.8 Landegode Prospect. The outline of P10, P50 and P90 is outlined in red, green and blue contour lines

Appendix 1 table shows revised parameters and volumes.

5 Technical Evaluations

The license was awarded a 1 year extension in order to fully evaluate a drilling program for the Landegode prospect due to the HPHT nature of the well. As described earlier, the updated pore pressure estimation indicated higher porepressures, with the result of smaller HC columns, and smaller volumes. The higher pore pressures had consequences for the well planning and development planning.

Well Design and Planing
Detailed PPFG work performed by ConocoPhillips Pore Pressure expert in Houston confirmed a 5-6 casing string design is required, as originally premised. There was therefore no justification to decrease time/cost estimate for what would likely be a challenging well. The well was still within the envelope of what has been drilled globally and within Norway. The updated drilling cost for a Landegode well is estimated to be USD 104 MM with an additional USD 14 MM for a success case including coring (but without 30day demob). Appraisal drilling which would include coring and testing has been estimated to USD 146 MM.

Development concepts
At the time of award, the development concept was a tie-back the existing Ekofisk facilities or a standalone processing platform. However, the smaller recoverable resources in the 2016 evaluation warrented a lower cost development solution and a tie-back solution to Tommeliten Alpha was therefore evaluated.

The Landegode prospect lies within the catchment area of several processing hubs, the closest of which is the Ekofisk facility.

The standalone processing concept requires a separate processing platform, costing between 12 and 16bnNOK, and economic checks showed that this could be competitive on NPV at field sizes in excess of 300mmboe gross.

The tie-back concept utilizes a small unmanned wellhead platform or a subsea facility, with multiphase flow back to a nearby host. This concept has limitations on the peak rate due to processing capacity at the host, or potential investments in debottlenecking work. Tie-back directly to Ekofisk, potentially with a combined tie-in facility including the nearby Tommeliten Alpha discovery, was found to be the most optimum for the larger scale tie-back cases (circa 100-150 mmboe). Utilizing a future Tommeliten Alpha pipeline, once that field was off plateau, is a lower cost alternative for smaller field sizes, but results in a later start date. The tie-back to Tommeliten Alpha would be a 2-8 well subsea development on Landegode with a multiphase flowline back to Tommeliten A. See figure 5.1

Fig. 5.1

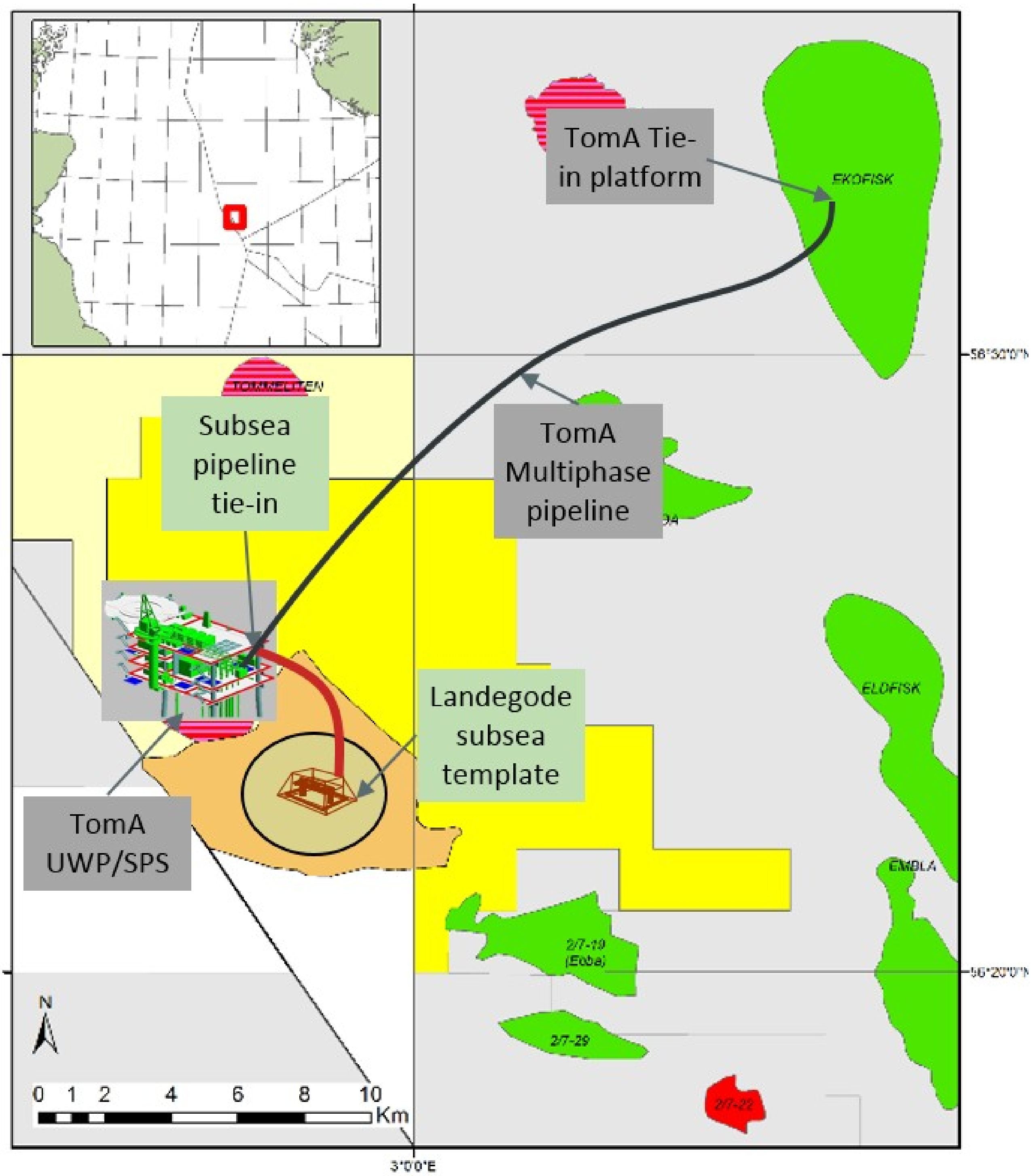

Fig. 5.1 Landegode Development.

Estimated startup would be in 2032 when Tommeliten Alpha is coming of plateau. The total facility Cost is calculated to 1.6 - 2.6 BNOK compared to the 4.8 BNOK for a tie-back to Ekofisk.

6 Conclusions

The obligatory work program for PL044 B & C has been fulfilled. Modern broadband 3D data was acquired and interpreted.

The Landegode prospect has been evaluated and new studies integrated into the prospect evaluation. In general, there is consensus around input parameters for the volume calculations however, there are differences in the perception of column hight. The review of the subsurface pressures made an impact on the mechanical top seal evaluations and caused a significant reduction in potential recoverable resources. Both P10 and P50 are well below tie-back minimum economic field size for the appropriate development concept.

Based on the evaluations, the operator recommended to drop the licenses PL044B and PL044C at the decision gate February 7th, 2017, with the reasoning that the B and C lisenses do not contain prospects with an acceptable combination of risk, volume and commercial potential to justify drilling an exploration well. The partnership voted by majority to drop the license at the Drill or Drop decision gate February 7th, 2017, with ENI, Total and ConocoPhillips supporting a drop decision, and Statoil voting to proceed with drilling a well.

7 Appendix

Table 7.1

Table 7.1 Landegode Prospect Data

Table 5: Prospect data (Enclose map)

Block	1/9	Prospect name	Landegode	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:	Gas	Reported by company	ConocoPhillip Skar	Reference document				Assessment year	
This is case no.:		Structural element	Grensen Nose/Full	Type of trap	Stratigraphic/struc	Water depth [m MSL] (>0)		Seismic database (2D/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)	0.57	0.66	8.14	20.00				
	Gas [10^9 Sm^3] (>0.00)	0.73	0.75	9.94	77.90				
Recoverable resources	Oil [10^6 Sm^3] (>0.00)	0.20	0.26	3.25	8.38				
	Gas [10^9 Sm^3] (>0.00)	0.28		2.32	12.82				
Reservoir Chrono (from)	Kimmeridgian	Reservoir litho (from)	Farsund Fm	Source Rock, chrono primary	Kimmeridgian	Source Rock, litho primary	Farsund Fm	Seal, Chrono	Volgian
Reservoir Chrono (to)	Volgian	Reservoir litho (to)	Farsund Fm	Source Rock, chrono secondary	Volgian	Source Rock, litho secondary	Farsund Fm	Seal, Litho	Farsund Fm
Probability [fraction]									
Total (oil + gas + oil & gas case) (0.00-1.00)	0.27	Oil case (0.00-1.00)		Gas case (0.00-1.00)		Oil & Gas case (0.00-1.00)			
Reservoir (P1) (0.00-1.00)	0.50	Trap (P2) (0.00-1.00)	0.85	Charge (P3) (0.00-1.00)	0.90	Retention (P4) (0.00-1.00)	0.85		
Parametres:	Low (P90)	Base	High (P10)	*Comment: This Landegode case is a gas condensate case. All oil volumes reported are condensate. Recovery factor oil is recovery factor condensate. Recoverable resources for gas mean is really P50 value. "GOR, free gas" is the inverse of condensate yield. Condensate yield is 450-800-1270 Sm3 condensate/1e6 Sm3 gas (P90-P50-P10).*					
Depth to top of prospect [m MSL] (> 0)	4850	4850	4850						
Area of closure [km^2] (> 0.0)	31.1	31.1	31.1						
Reservoir thickness [m] (> 0)									
HC column in prospect [m] (> 0)	150	395	700						
Gross rock vol. [10^9 m^3] (> 0.000)	7815.200	7815.200	7815.200						
Net / Gross [fraction] (0.00-1.00)	0.10	0.21	0.33						
Porosity [fraction] (0.00-1.00)	0.12	0.17	0.20						
Permeability [mD] (> 0.0)	8.0	55.0	205.0						
Water Saturation [fraction] (0.00-1.00)	0.33	0.25	0.17						
Bg [Rm3/Sm3] (< 1.0000)	0.0027	0.0028	0.0029						
1/Bo [Sm3/Rm3] (< 1.00)									
GOR, free gas [Sm^3/Sm^3] (> 0)	790	1250	2220						
GOR, oil [Sm^3/Sm^3] (> 0)									
Recov. factor, oil main phase [fraction] (0.00-1.00)	0.22	0.39	0.53						
Recov. factor, gas ass. phase [fraction] (0.00-1.00)									
Recov. factor, gas main phase [fraction] (0.00-1.00)	0.31	0.53	0.70						
Recov. factor, liquid ass. phase [fraction] (0.00-1.00)				For NPD use:					
Temperature, top res [$^{\circ}$C] (>0)	175			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)	1100			Dato:	NPD will insert value	Registrert Dato:	NPD will insert value	Kart dato	NPD will insert value
Cut off criteria for N/G calculation	1.Vsh<40%	2. por>10%	3.					Kart nr	NPD will insert value