



PL 453S Relinquishment Report

February 2014

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1. Summary and Conclusion

The evaluation of PL 453S resulted in a prospect portfolio consisting of the Jurassic Oгна prospect and several Cretaceous and Jurassic leads. The exploration well 8/5-1 tested Oгна and one of the Cretaceous leads. The well was dry. With a very high risk on hydrocarbon migration for the remaining leads and no reduction on the reservoir risk, none of these has been upgraded to drillable prospects. The decision to relinquish the license has been made by the partnership the forth of February 2014.

2. Introduction

PL 453S comprise 2122 km² of blocks 8/4, 5, 7, 8, 9, 11 and 12. The blocks are situated on the Sørvestland High, part of the regional Vestland Arch that extends from the Ringkjøbing Fyn High and includes the Jæren, Utsira and Bjørgvin Highs (Fig. 1).

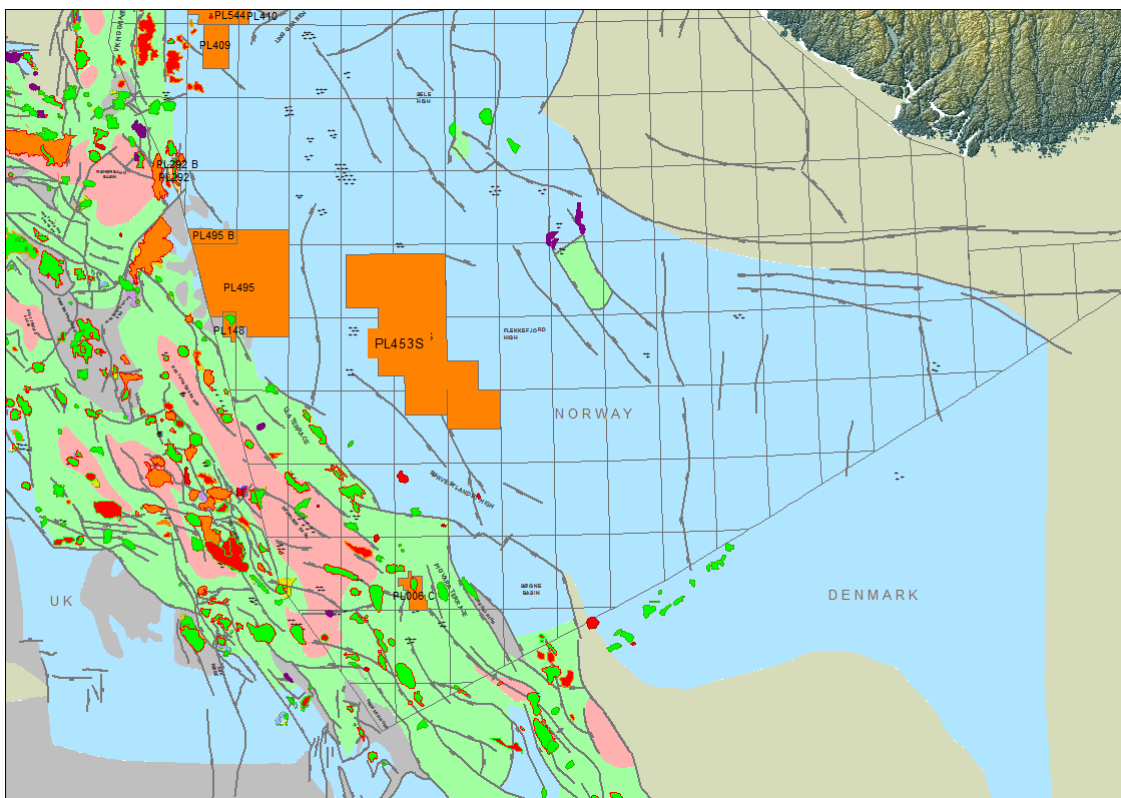


Figure 1: License locations (in orange) and main structural elements

3. License award and period extension

PL453S was awarded as part of APA 2007 on 29th February 2008, with a 6 years initial license period to Lundin (35% and operator), Noreco (25%), Det norske (25%) and VNG (15%).

The APA 2007 application contained several leads of Jurassic and Cretaceous ages, see figure 2. Note that the Rotliegendes lead identified in the application was stratigraphically excluded from the awarded license.

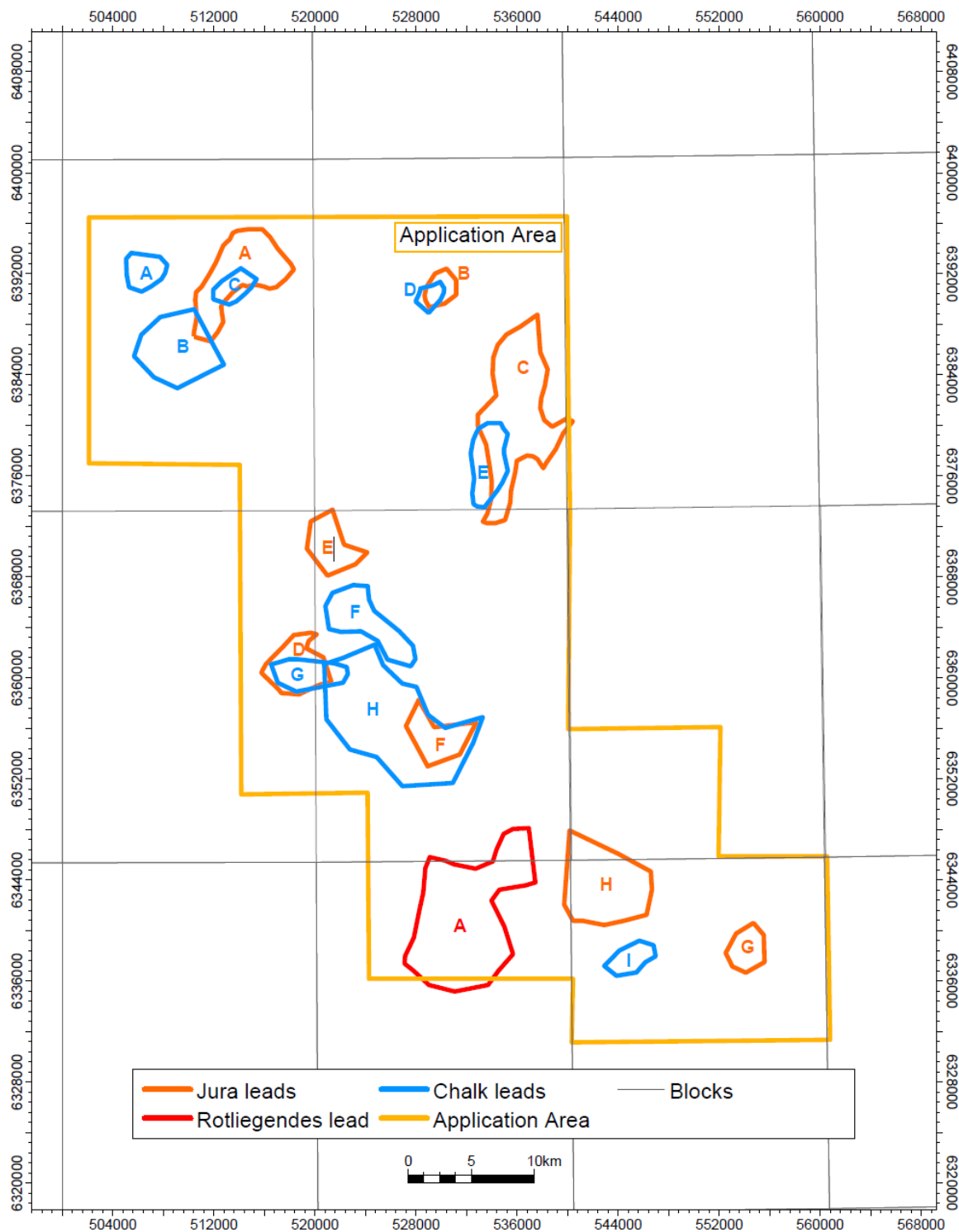


Figure 2: Prospectivity portfolio from APA 2007

The decision to drill one exploration well was made in February 2011. An application for a one year extension for the decision for continuation (BOV) was filed in September and granted in October 2012.

4. Completed work program and special studies

The work commitment was to acquire a minimum of 1500 km² 3D seismic. A drill-or-drop decision was to be made within 3 years of award.

The seismic work commitment was fulfilled during 2008 and 2009 by acquiring approximately 2550 km² 3D seismic. The final processed survey comprised the merge of the acquired data and part of the SST2000 survey. The final MC3D-Q8-2008 survey thus covers approximately 2800 km², fig. 3.

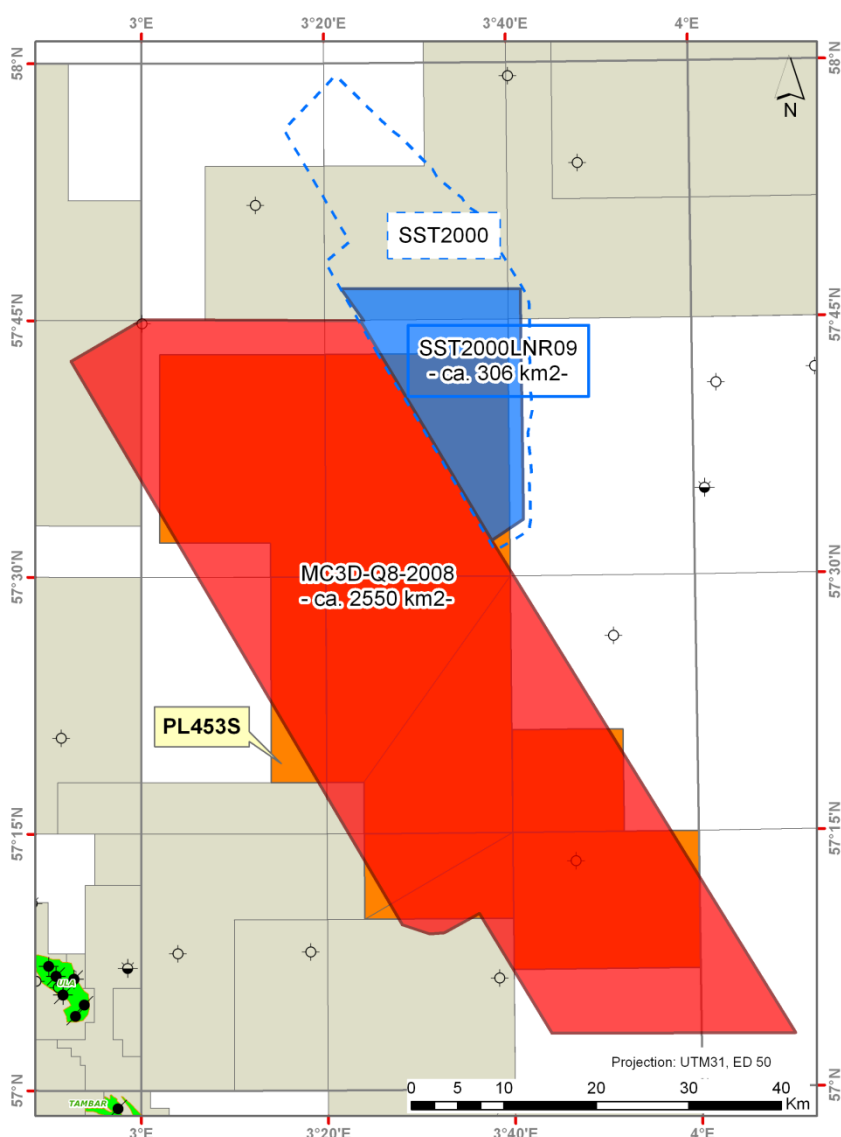


Figure 3: MC3D-Q8-2008 3D seismic coverage; in red the 2008/2009 acquisition, in blue the part of SST2000 included in the merged final dataset

In addition to the work commitment, special studies have been performed, including:

- H-mult processing to remove multiples and peglegs below and parallel to the strong BCU reflector on the whole dataset
- Additional multiple and pegleg removal (CBM demultiple) on 50 km² covering the Oгна prospect
- Basin modeling including long and short range migration
- Paleogeographic reconstructions

5. Pre-drill prospectivity evaluation

The seismic interpretation (both regionally and locally), geochemical analysis, basin modeling as well as evaluation of prospectivity was carried out mainly during 2009-2010. All but one of the leads depended on long-range migration from the Central Graben. To summarize, the long-range migration was considered difficult due to large migration losses, early movement of salt intrusions provided barriers to migration and that highs had formed between the license area and Central Graben at the time of peak oil maturation. Hence, these leads were not upgraded.

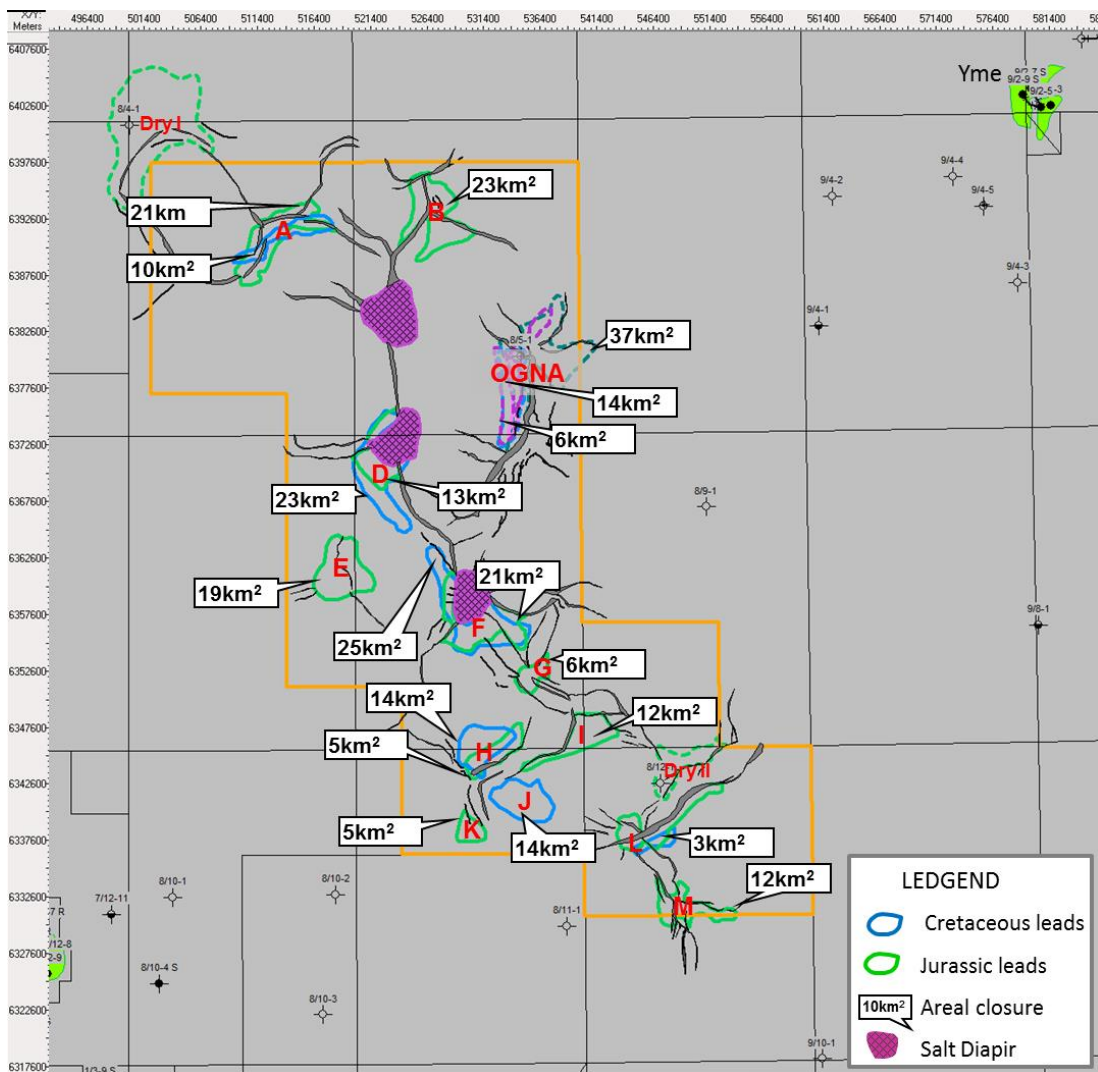


Figure 4. PL453S Prospectivity portfolio after interpretation of MC3D-Q8-2008

The C lead (in figure 2) was upgraded to prospect and was re-named Oгна. It was located next to local inlier basin. The evaluation showed that if sufficient

amount of Upper Jurassic Tau Fm source rock and/or additional source rock (such as Upper Jurassic Farsund, Lower Jurassic Toarcian aged) were present in the basin, it would likely be in the oil maturation window and thus source Ogha.

The Ogha prospect (former lead C)

This Ogha prospect is defined as a structural trap, a 4-way dip closure related to an movement of salt of the Zechstein Gp with expected upper Jurassic Sandnes Fm and/or middle Jurassic Bryne Fm sand. It depended on to be charged from a local basin located to the west. The prospect was divided into some separate fault segments and a well location was chosen in the largest and most westerly segment, closest to the inlier basin.

The decision to drill was made late February 2011. Figures 5 and 6 show the structure map at BCU and the x-section through the prospect respectively

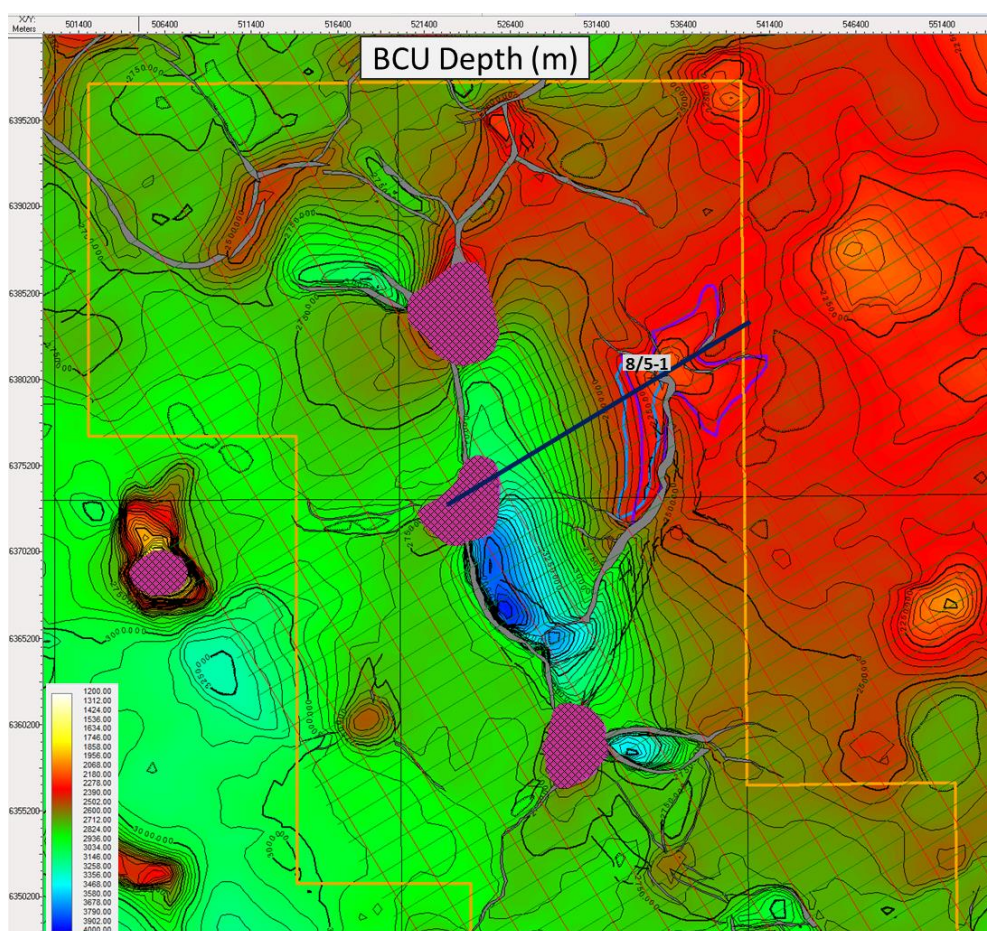


Figure 5. Well 8/5-1 location on the BCU depth map showing the location of the seismic line in figure 6.

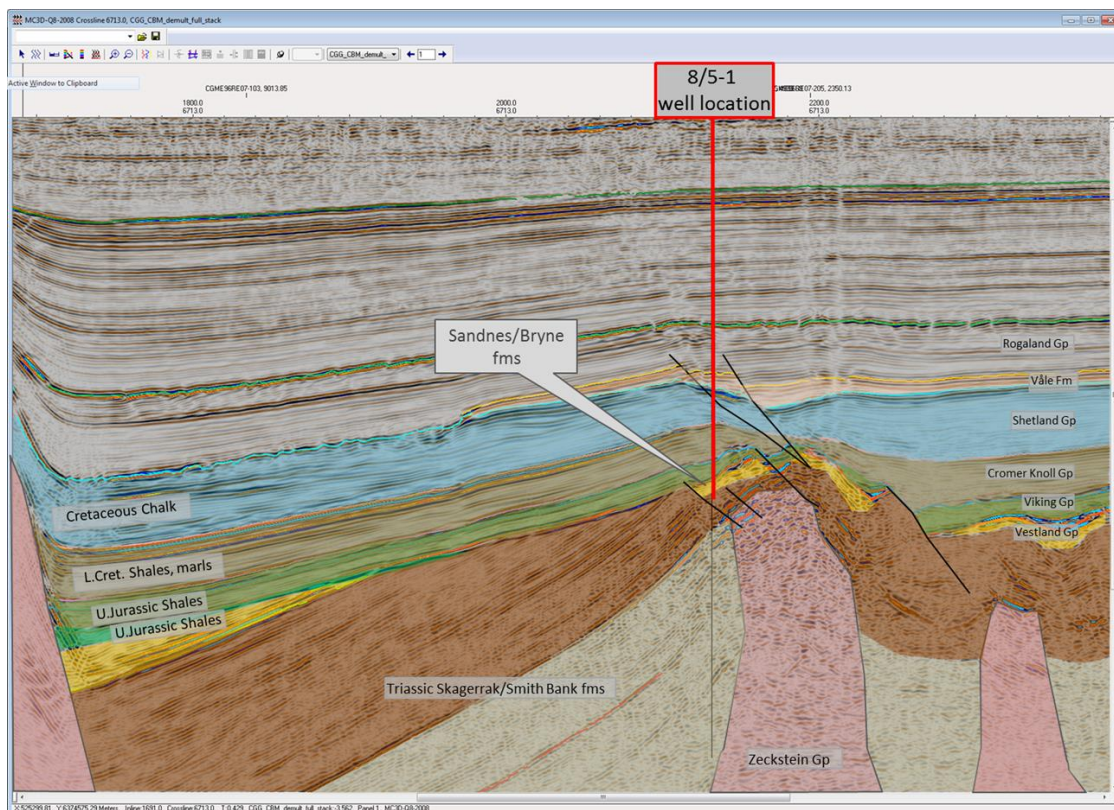


Figure 6. Seismic cross section through the Oгна prospect. The line location is shown in figure 5.

6. 8/5-1 well results

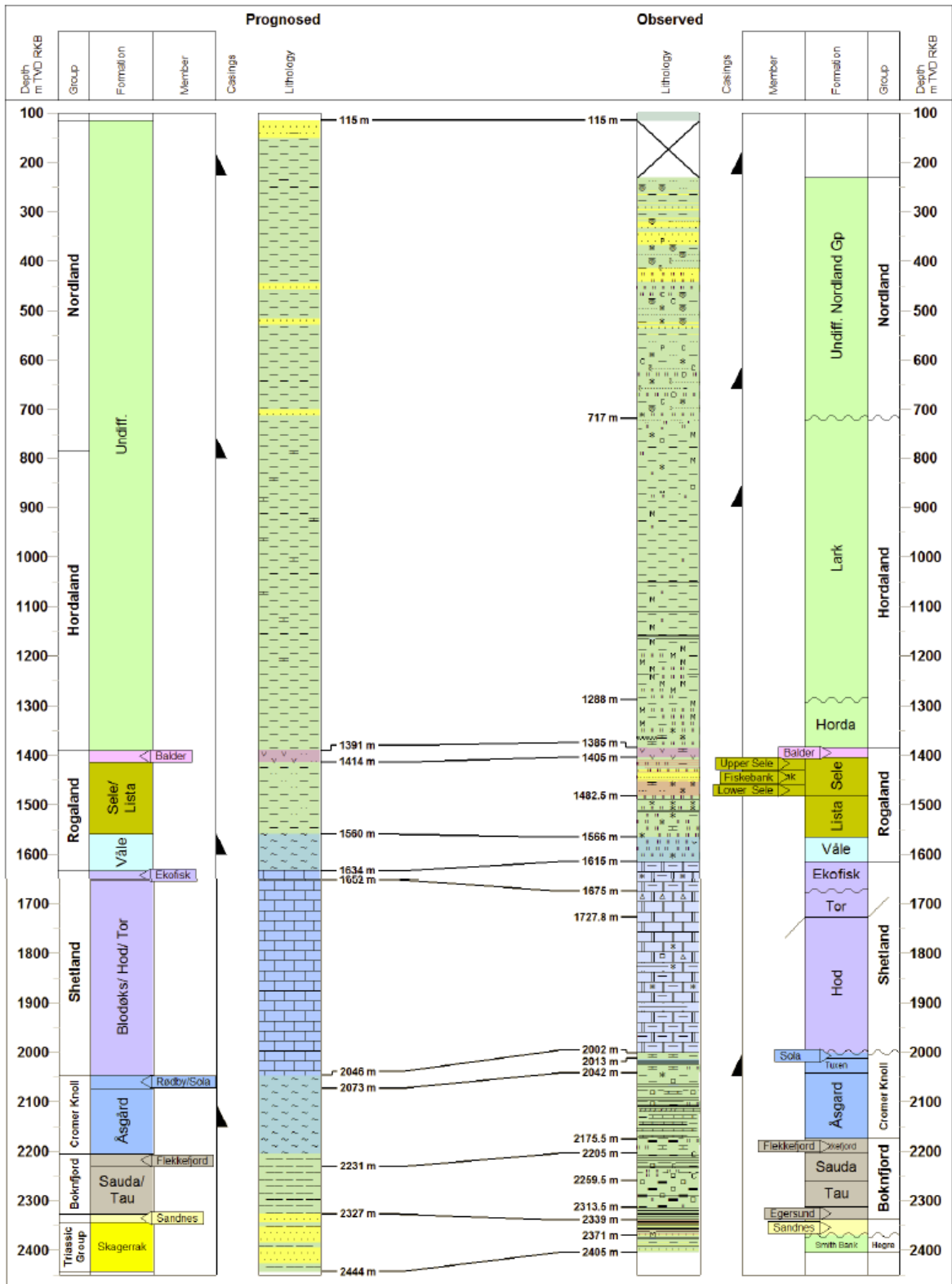
The well was drilled as a vertical well at the following location:

X: 534730 m East	Y: 6380260 m North	UTM Zone 31, CM 03° East
Lat: 57° 33' 43.83" N	Long: 03° 34' 49.67" E	ED-50
Line intersection: (MC3D-Q8-2008)	xline: 6713	Inline: 2132

The well was spudded 10.01.2013 and reached well TD of 2405 mMD RKB 27.02.2013. The well was permanently abandoned. The P&A operations were completed 28.03.2013 and the rig left the location 31.03.2013.

The well was dry. Presence of sufficient quantities of mature sore rock in the local inlier basin is considered the main failure for the prospect. In addition, the reservoir quality in the main reservoir, the Sandnes Fm, was of moderate to poor quality.

The prognosed vs. observed lithology and formation tops is shown in figure 7.



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Figure 7: Well 8/5-1 prognosed vs actual (depth and geology)

7. Post drill prospectivity evaluation

The highest risk had been attributed to volumes oil generated from Upper Jurassic and the presence of Lower Jurassic (Toarcian age) source rocks. The well confirmed the presence of Upper Jurassic main Tau Fm source rock with excellent properties and minor Flekkefjord Fm and Egersund Fm source rocks with good to rich properties. The well did not penetrate the Toarcian age SR. The lack of shows in the well could be attributed to either source rock not being oil mature in the close-by basin or to the amount being generated is too limited to reach and fill the structure due to migration loss and/or migration route.

Only one of the other leads (A) could have been linked to another inlier basin but as this is at a shallower depth, a much higher temperature within the basin is necessary, but very unlikely.

All remaining leads depend on long range migration from the Central Graben and it is considered difficult due to large migration losses, early movement of salt intrusions provided barriers to migration and that highs had formed between the license area and Central Graben at the time of peak oil maturation.

Hence, none of the identified leads can be upgraded to drillable prospects.