PL 700/700B Relinquishment Report

2017

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Contents

1. Summary and Conclusion

The evaluation of PL 700 and PL700B resulted in a prospect portfolio consisting of one prospect, Lorry, which was drilled by the well 6407/10-4 during November 2015 to January 2016.

The well had some shows bus was classified as dry – apparently lacking effective seal. The well failed to drill the proposed Jurassic or Permian reservoir units, and instead penetrated 830 m of Triassic age clastic sediment.

Remaining prospectivity in PL 700/700B is assessed to be low so a decision to relinquish the licenses was made by the partnership in November 2017.

2. Introduction

The licenses PL700 and PL700B are located on the southern tip of the Halten Terrace and western part of the Frøya high (Fig. 1). PL 700 to the west comprises 300 km^2 of the blocks 6406/11 and 6409/12. The PL700B comprises 69 km2 of the block 6407/10.

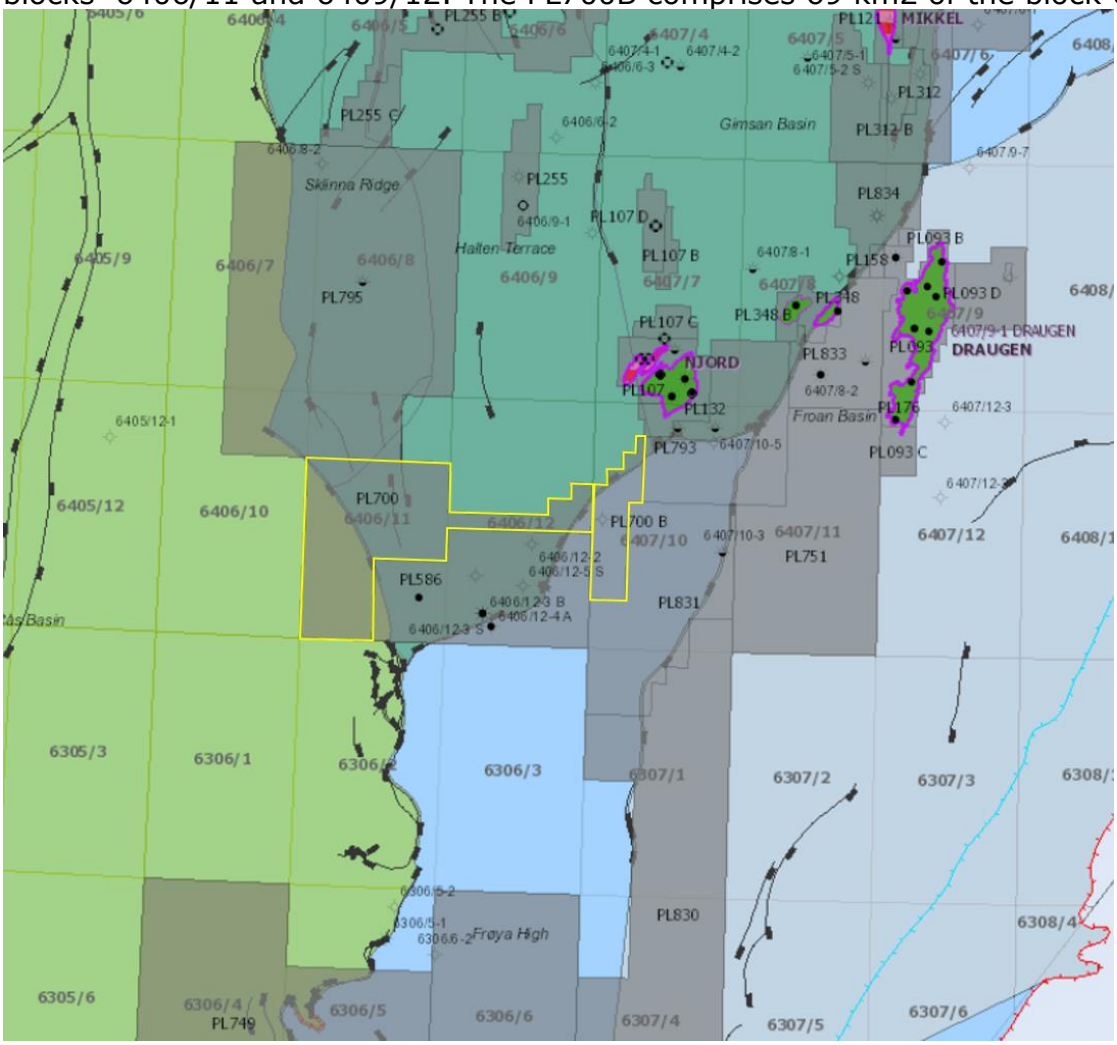

Figure 1. PL 700/PL700B location with structural elements

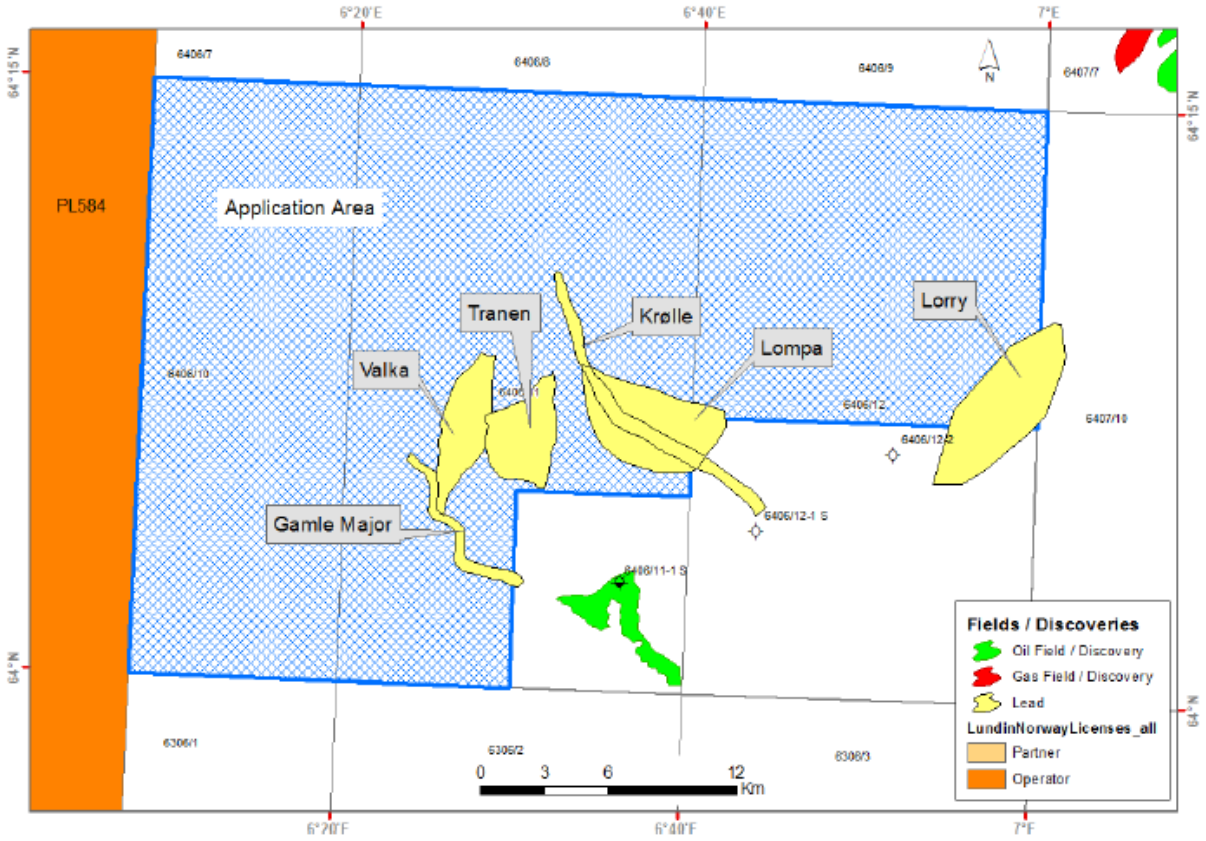

Figure 2. Prospectivity portfolio at APA 2012 resulting in award of PL700.

3. License award

PL700 was awarded as part of TFO 2012 (Fig.2) on 8th February 2013, with a seven years initial license period to Lundin (40% and operator) and Bayerngas (20%), VNG (20%) and GDF SUEZ E&P Norge AS (20%). The PL700B was awarded as additional acreage to PL700 on 6th February 2015 (Fig. 3). The partnership spudded the Lorry well in November 2015. GDF Suez changed name to Engie from 13th January 2016.

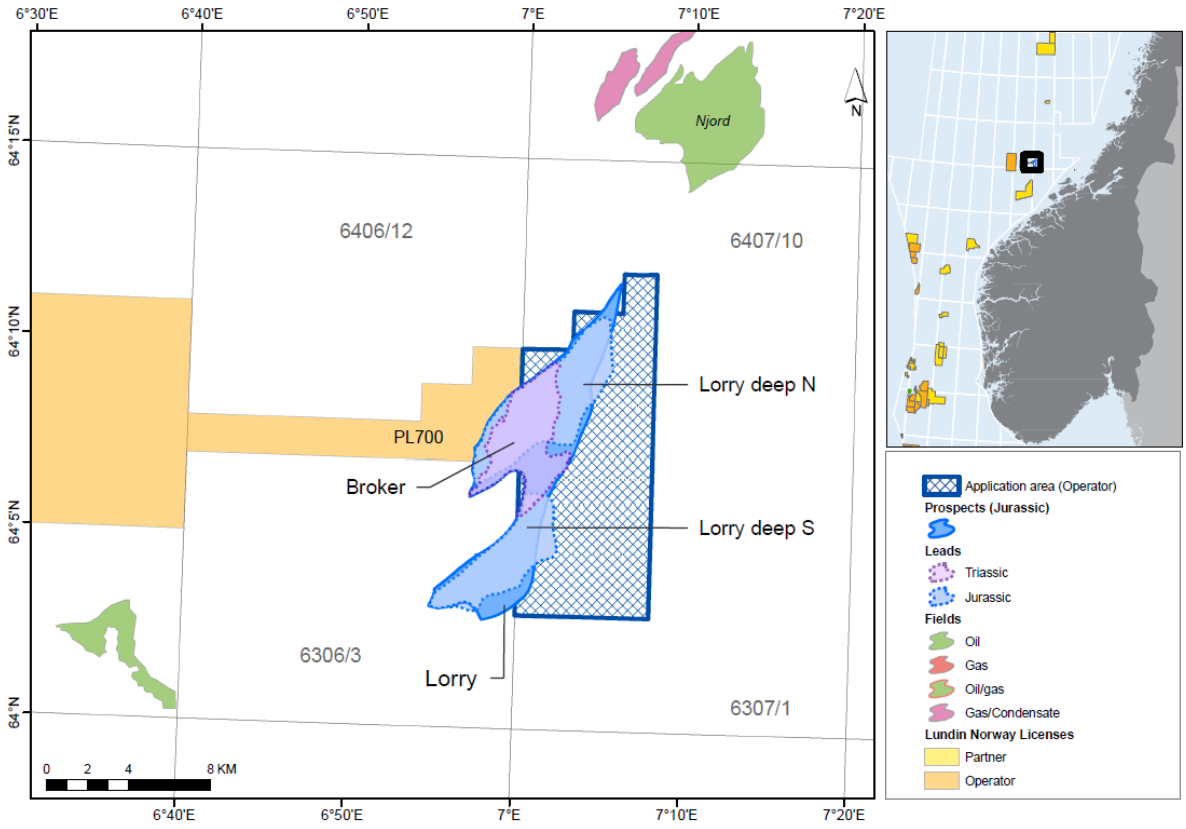

Figure 3. Prospectivity portfolio at APA 2014 resulting in award of PL700B as additional acreage to PL700.

4. Completed work program and special studies

The work commitment in the PL700 license was to reprocess and/or aquire new 3D seismic.

The broadband 3D survey LN13002, acquired by the PL700 partnership covers the area of PL700B and eastern part of PL700 (Fig 4.). Several other 3D datasets exist in the license areas.

Learnings from the Utsira area in the North Sea were utilized both in the processing sequence and post stack enhancement of the broadband syrvet. Focus on multiple energy below the Base Cretaceous was a high priority.

An inversion study on the Frøya high (Eastern part of the license area) was performed to investigate lithology and predict fluid type.

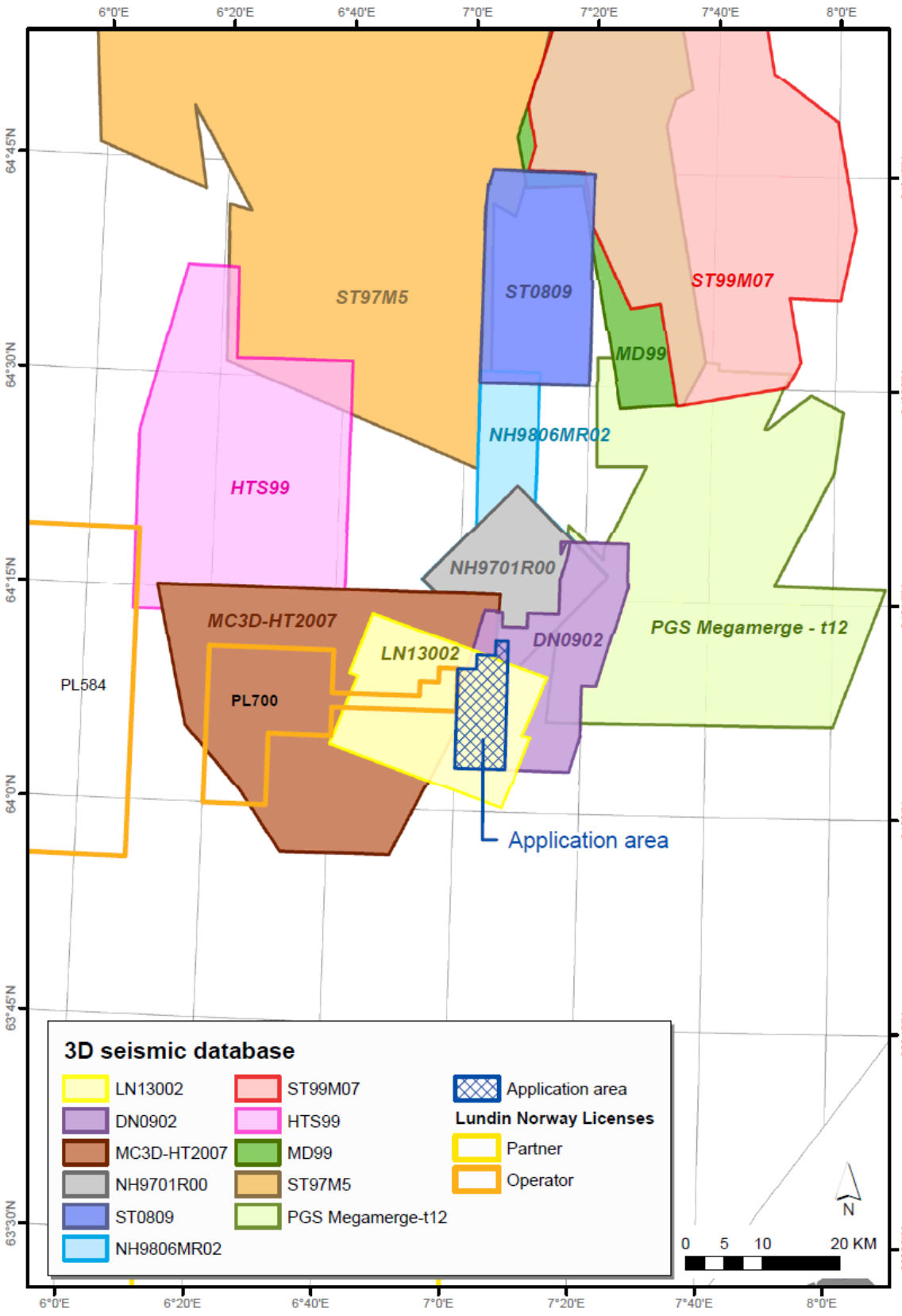

Figure 4. Seismic coverage at APA 2014, the survey LN13002 was acquired by the license PL700.

5. Pre-drill prospectivity evaluation

The Lorry Prospect was defined as a stratigraphic trap. Upper Jurassic Rogn Formation sands were thought to pinch-out towards the east on the Frøya High (Fig. 5) . Well 6407/10-4 is located immediately up-dip from the Vingleia Fault complex, between the well defined depositional system at the southern part of the Halten Terrace, and the key well 6407/10-3 on the Frøya High. The areal extent of the prospect was defined based on a combination of observed seismic anomalies, basement structuration linked to subtle structural expressions seen at the Base Cretaceous.

The Permian Broker lead was defiened as eastward dipping strata (Fig. 5). The dipping strata is truncated westward by an Upper Jurassic unconformity, defining the overlying Lorry prospect. Although the well control for the Broker lead was limited, it was assumed that the eastward dipping reflector was Permian carbonate, platform deposits. The up-dip well 6407/10-3 encountered a thick Triassic/undifferentiated sandy/conglomeratic package, interpreted to be mainly part of the Triassic 'Redbeds' (Norian- Carnian), deposited on sandy braidplanes.

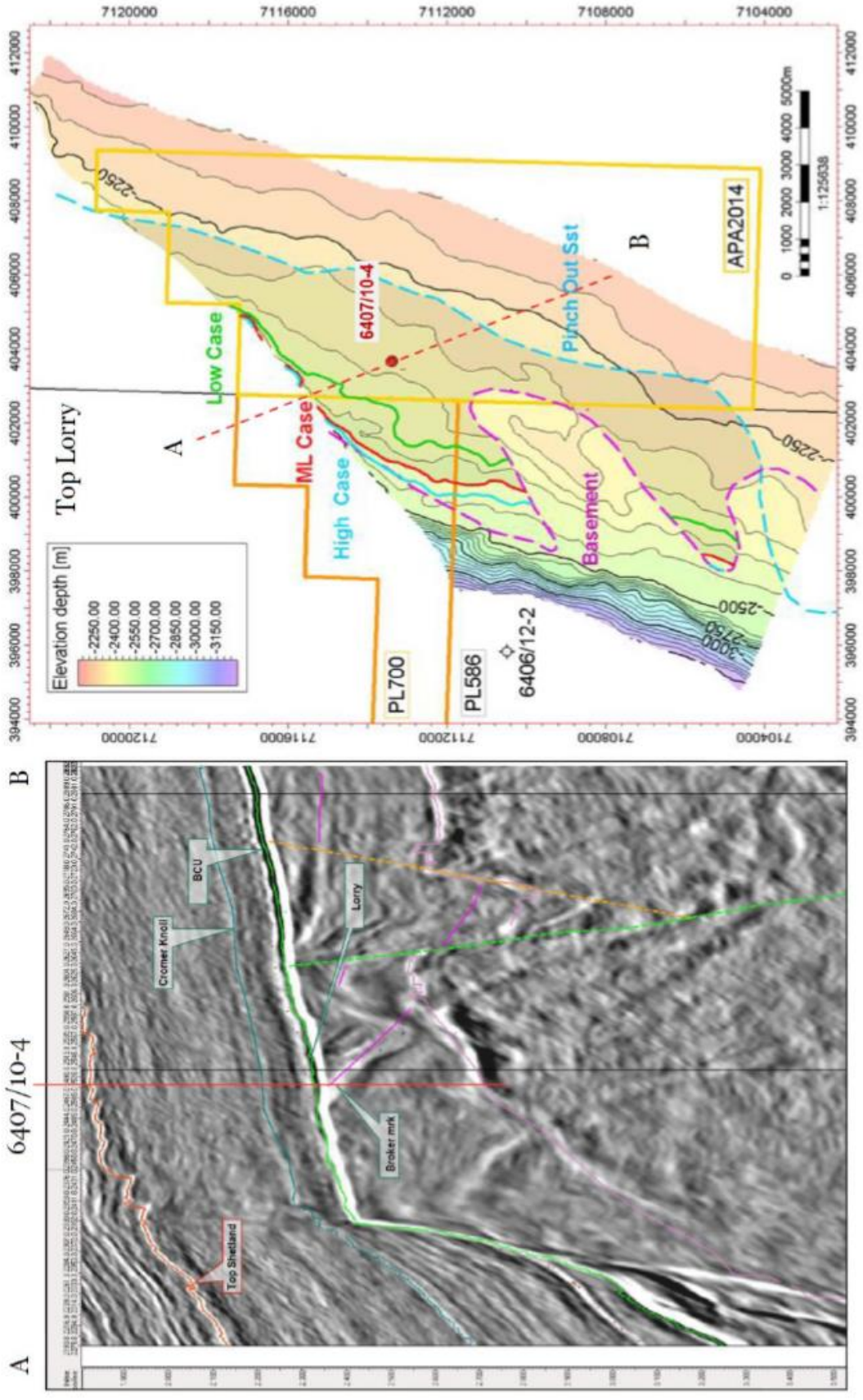

Figure 5. Seismic line through the Lorry prospect and 6407/10-4 well location with Base Cretaceous/Top reservoir depth map and cross section with th

Well results

6407/10-4 (Lorry)

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

X: 403 835.4 m East	Y: 7 113 285.3 m North	UTM Zone 32 N, Central Meridian 9° East
Lat: 64° 07' 51.78" N	Long: 07° 01' 28.32" E	ED-50
Line intersection: (LN13002)	Crossline 2528	Inline 2478

The well was spudded the 13th November 2015, and reached a total depth of 3224.0 m RKB in metamorphic sandstones. The well was plugged and abandoned on the 19th January 2016.

The well did not encounter reservoir formations of primary (Jurassic Rogn fm) nor secondary (Permian carbonates) targets.

The well did encounter approximately 830 m of possibly Triassic age clastic sediments with poor to moderate reservoir quality. These contained traces of hydrocarbons, however, the well is classified as dry.

Total depth was set approximately 50 m into metamorphic sandstones and conglomerates, possibly basement rock.

Results versus prognosis
The Base Cretaceous was encountered 5 m deeper than prognosed.

The most significant error in the prognosis was the presence of Triassic strata between BCU and Basement (Fig 7). The prediction of Rogn fm and Permian carbonates were not met. The Triassic strata had moderate to poor reservoir quality.

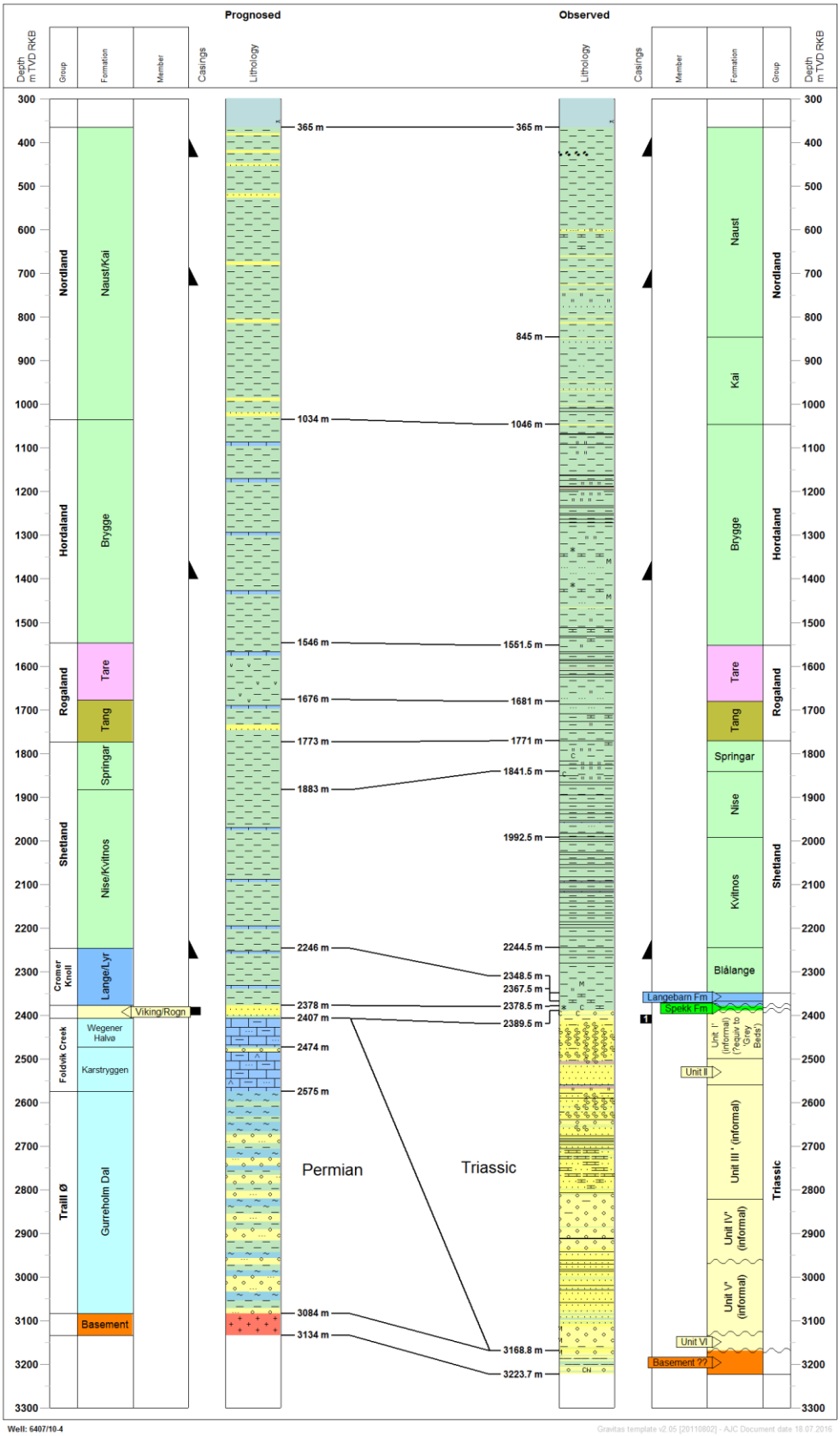

Figure 7. *Well 6407/10-4, pre and post drilling correlation. Depths in TVD.*

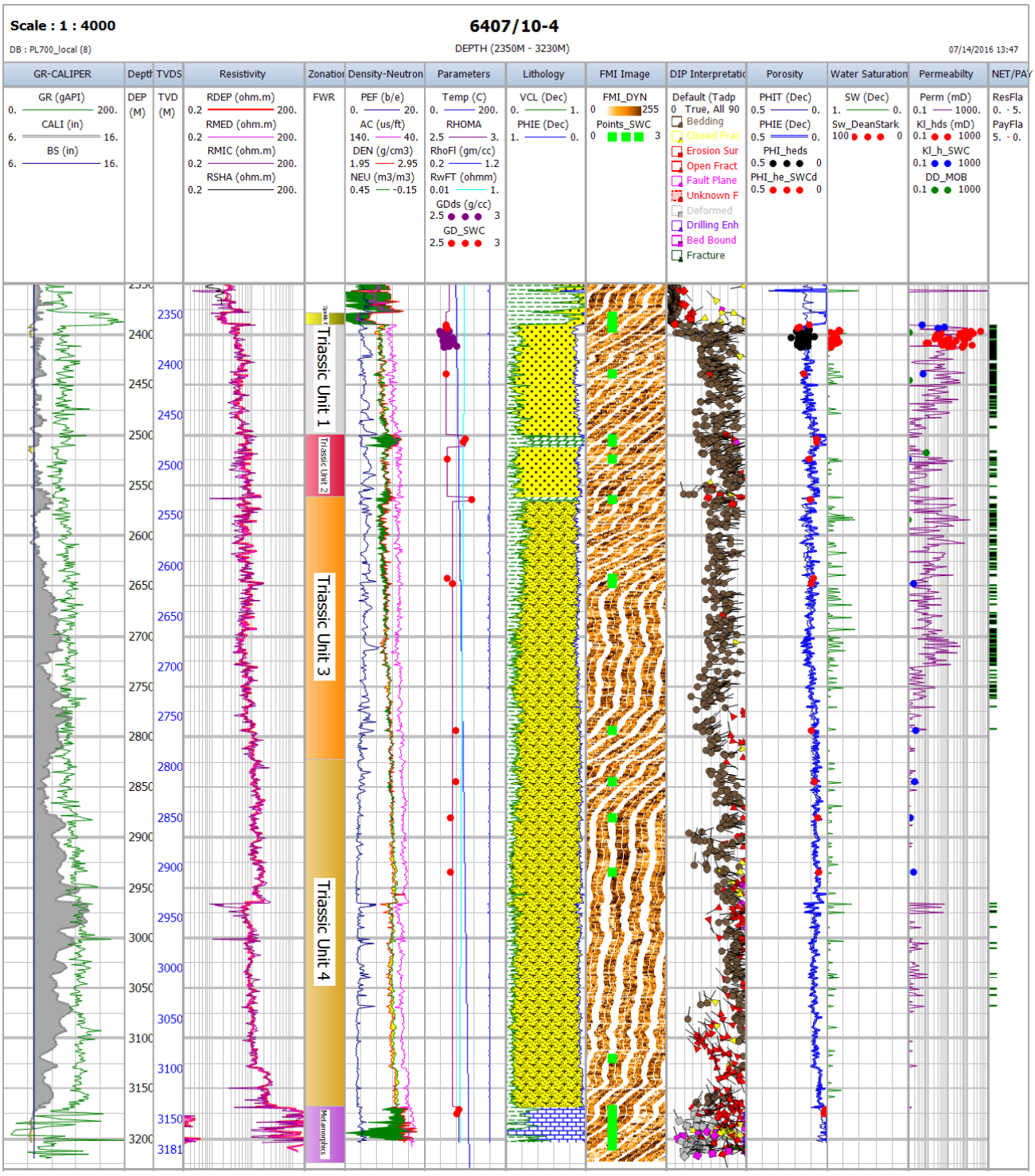

Figure 8. Petrophysical interpretation 6407/10-4, Overview

6. Remaining prospectivity evaluation

The remaining prospectivity in PL700/Pl700B is evaluated to be very high risk. At the terrace the leads are at depths over 3500 ms, hence the reservoir quality is expected to be poor and the leads are also located downdip of the dry well 6406/12-1. The Frøya high, updip of the Lorry well could hold reasonable volumes but the reservoir quality and trap is high risk.

There is consequently no viable prospect to take to take a drill decision on within the licence acreage. The remaining prospectivity is considered unattractive and a decision to relinquish the licence has been made by the partnership.