

**Relinquishment Report**  
**For**  
**UKCS Seaward Licence P2257**  
**Block 47/10d**  
**Southern North Sea**

**By**  
**Burgate Exploration & Production Ltd**  
**And**  
**Simwell Resources Ltd**

**October 2016**



# Block 47/10d

## 1. Licence Information:

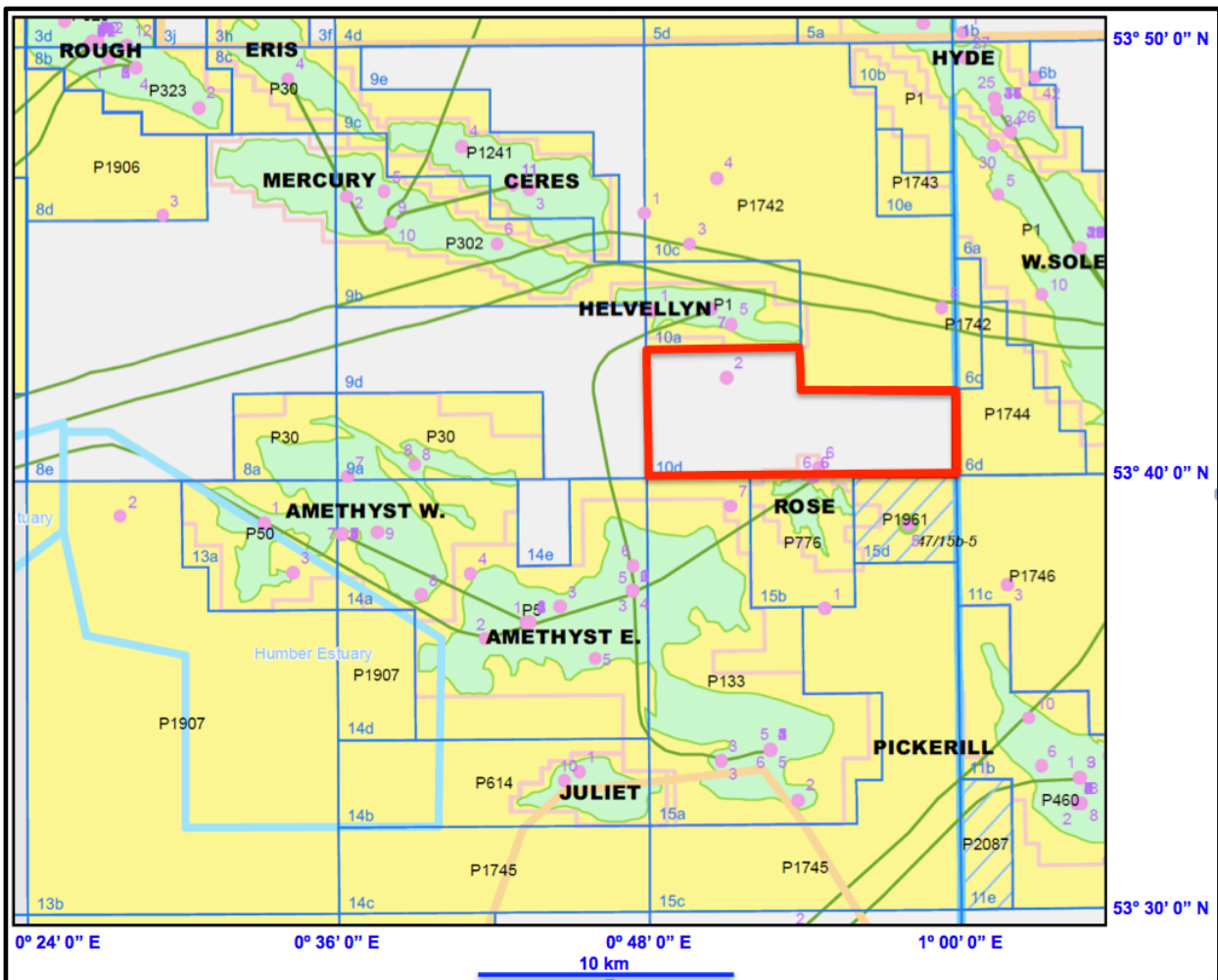
Licence Number: P2257  
Licence Round: 28th  
Licence Type: Promote  
Block Number: 47/10d  
Licencees: Burgate E&P Ltd (Administrator) 50%  
Simwell Resources Ltd 50%

Burgate confirms that Simwell Resources have approved this report for publication and third party ownership rights on any contained data and/or interpretations have been considered and appropriately cleared for publication.

## 2. Licence Synopsis

This Promote Licence was awarded to Burgate E&P (50% administrator) and Simwell Resources (50%) in the 28<sup>th</sup> Round (Figure 1). The licence Start Date was 1<sup>st</sup> Dec 2014 and the work programme consisted of obtaining and reprocessing 100 sq km of 3D seismic during the Promote Period, that is in the first 2 years of the Initial Term. Part II of the work programme stipulated drill or drop with a well to be drilled to 2750m or 90m into the Carboniferous whichever was the shallower. The licence was taken

Figure 1 Location of Block



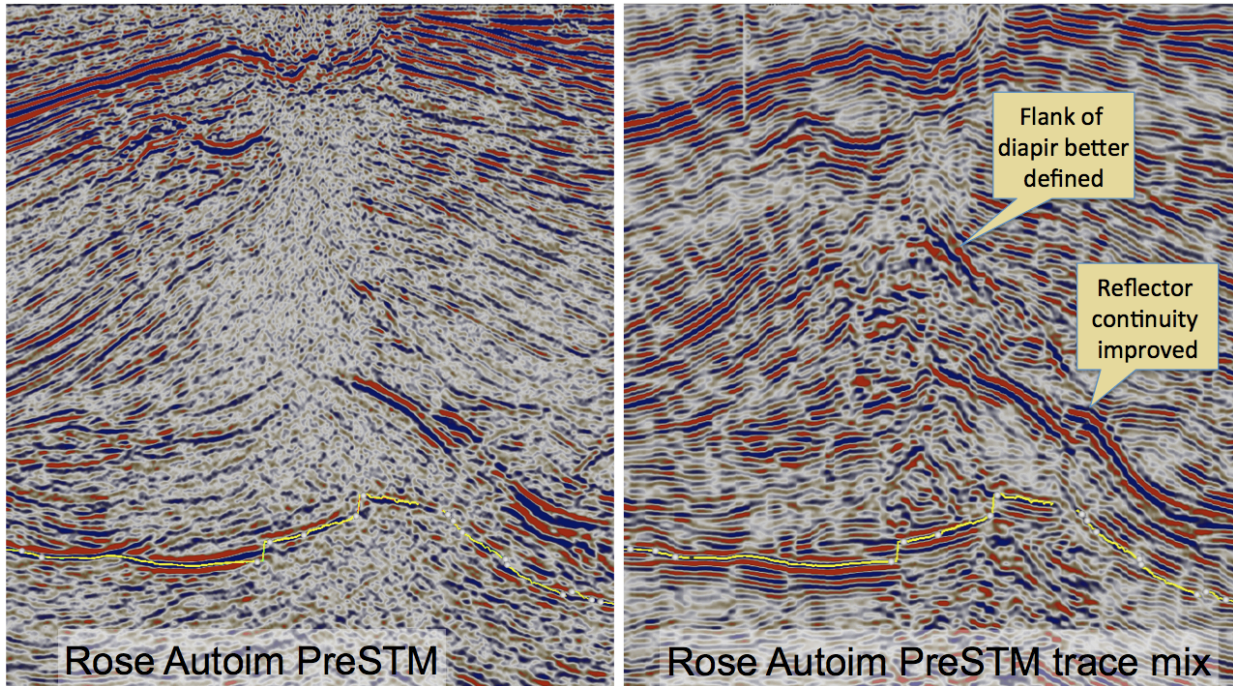
because the R II gas discovery extended onto the block. The licence was relinquished

before the end of the Promote period as no farminee could be found to fund the reprocessing or continue the licence.

### 3. Work Programme Summary:

The licencees undertook to obtain and reprocess 100 sq km of 3D seismic in Part I of the Work Programme. The BP94\_47\_10\_TQ3D survey was purchased to supplement the BG 1992 Rose 3D data already purchased. The Rose 3D was reprocessed post stack and a noise reduction was achieved. The comparison is shown in Figure 2 below. The definition of the Lemman reflector was improved but remapping did not make a significant change to the structure (R II) already identified.

**Figure 2 Result of Post Stack Processing**



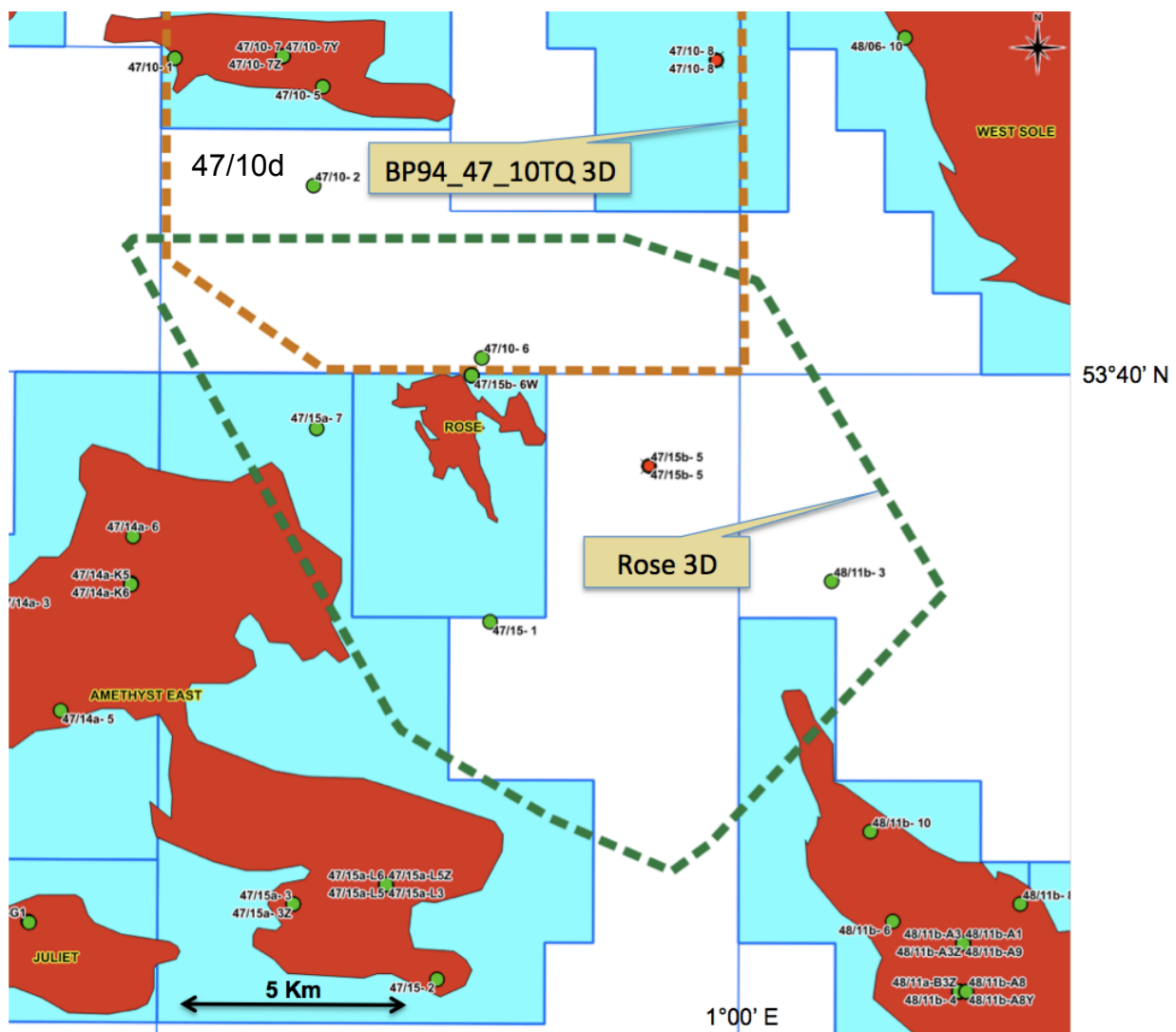
### 4. Database

The area has been explored since the first production licence P001 was awarded in 1964. Well 47/15-1 was drilled by Phillips in 1968 and found water bearing Lemman sandstone. No further drilling took place until 1972 when 47/13-1 and 47/14a-1 were drilled and discovered gas in the Lemman Sandstone. These discoveries led to the development of the Amethyst Gas Field. In Block 47/10 Helvellyn was discovered by BP well 47/10-1 in 1985. It was appraised in 1990 and eventually developed by ATP Oil and Gas in 2002 to 2004. Well 47/10-7 was drilled then twice sidetracked. The last sidetrack, 47/10-7Y was drilled horizontally from the centre of the structure westwards towards the original discovery well 47/10-1. The field has produced 17bcf since first gas in 2004. More recent activity has included development drilling on Rose and East Amethyst (L5 and L6) showing there is still gas to be produced in the area. Exploration wells 47/15a-7 by BP in 2004 and 47/10-8 in 2005 by Newfield have been unsuccessful. In 2009 GDF Suez completed 47/14b-10 as a gas discovery named Juliet. This well lies to the south of Amethyst in an area where depth conversion has been uncertain. The last exploration success in 47/10 was 47/10-6 drilled by BG Group discovering the Rose Field, which is mainly located in 47/15b. In 2001 BG also drilled 47/15b-5 on a structure now thought to extend into 47/10d. The well proved gas in the Lemman Sandstone and was tested but analysis of the DST suggested a limited volume of gas had been accessed and further development was shelved. The wells in Table 1 below were reviewed and interest focused on 47/15b-5 which was a gas discovery in the Lemman Sandstone Formation.

**Table 1 Wells used in Study**

Well	Date	Operator	Status	Result
47/15-1	1968	Phillips	P&A	DST produced water from Lemman
48/11-3	1977	Amoco	P&A	Leman reservoir water wet
47/10-1	1985		P&A	29 mmscfd from Lemman, 1.3 mmscfd from Carbonifeuous
47/15a-3, 3Z	1985	Amoco	P&A	DST produced 3 mmscfd from Namurian
47/10-2	1987	BP	P&A	Reservoir water wet
47/10-6	1998	BG Group	P&A	Discovered Rose Field
47/15b-5	2001	BG Group	P&A	Gas Discovery R2
47/15b-6	2003	Centrica	Producing	Rose Field Development
47/15b-6Z	2003	Centrica	P&A	Development ST failed poor reservoir
47/15b-6Y	2003	Centrica	P&A	Development ST failed poor reservoir
47/15b-6X	2003	Centrica	P&A	Development ST failed poor reservoir
47/15b-6W	2003	Centrica	Producing	Rose Field Development
47/15a-7	2004	BP	P&A	Reservoir water wet

**Figure 3 Location of Data**



The seismic cover of the block is shown in Figure 3 above. There are five processing versions of the Rose 3D and the 2008 PreSTM by Petrologic was used for this study. The various versions are shown in Table 2 below.

**Table 2 Rose 3D Seismic Processing**

1993	PostSTM by CGG
2007	PreSDM by SIP
2007	PreSDM-feet by SIP?
2008	PreSTM using autoimager by Petrologic/Data Modeling Inc. Calgary
2008	PreSDM AGS Beam Migrated by PGS

The northern part of the block was covered by the BP94-47-10-TQ3D survey, see Figure 2. The Rose and BP data sets were merged into one project for mapping.

5. Prospectivity Update:

**R2 Discovery**

The exploration well 47/15b-5 was drilled in an area of salt diapirism and the seismic data is consequently lacking in definition and suffering from random noise. The well did not conform to the prognosis but was nonetheless a discovery. Mapping shows the structure consists of two segments, one has been penetrated by the 15b-5 well, the second segment is adjacent and up dip.

Mapping post award confirmed the structure presented in the licence application. Figures 4 and 5 show the post award interpretation of top Lemman Sandstone structure in depth map.

**Figure 4 Top Lemman Sandstone Structure in Depth**

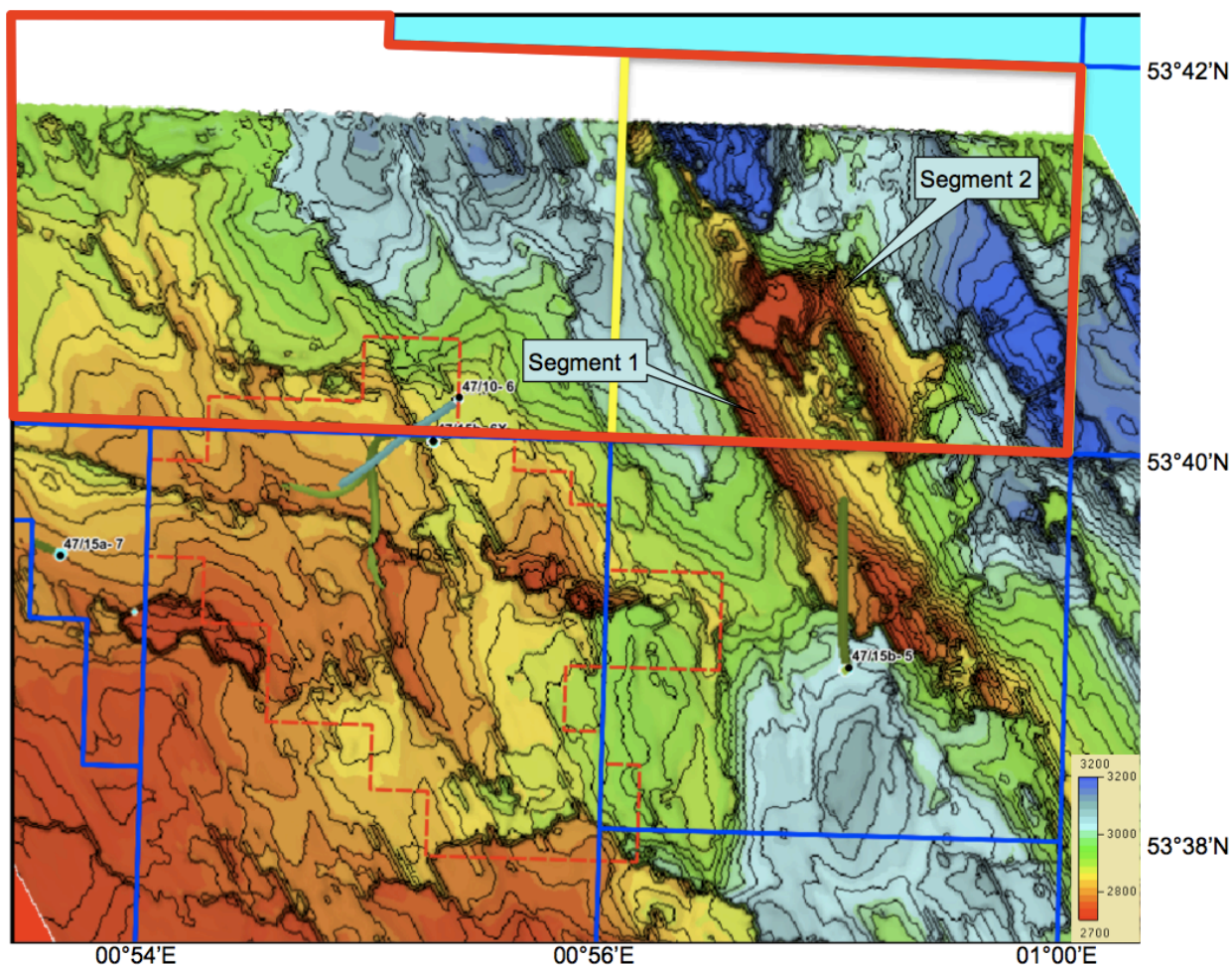
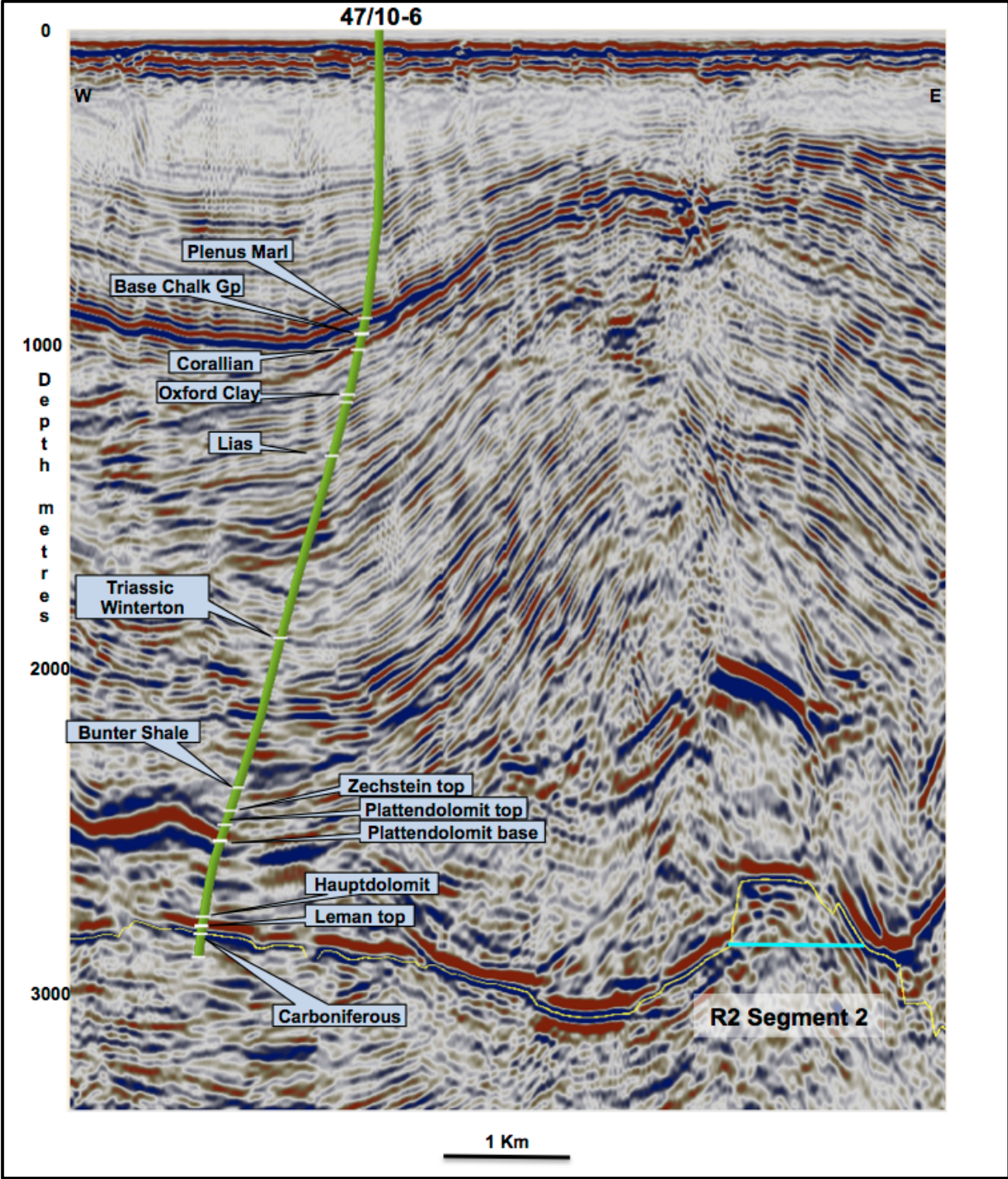


Figure 5: Seismic Line along the track of 47/10-6



6. Further technical work undertaken:

The 47/15b-5 well test was analysed and evidence was found to support the theory that water influx at the base of the DST interval might have caused the pressure drop in the downhole gauge which was situated 100 – 120 ft. above the perforations. On this assumption the GIIP in contact with the well would be 20bcf.

7. Resource and Risk Summary:

Resource and Risk Summary										
Prospect, Lead or Discovery Name	PLD	Stratigraphic Level	Unrisked Resources						Geological Chance of Success %	Risky P50 Mmboe
			Oil MMbbls			Gas BCF				
			Low	Central	High	Low	Central	High		
R II Seg 1	D	Leman Sst				2	6	16	100	
R II Seg 2	P	Leman Sst				6	24	67	40	

8. Conclusions:

There remains a proven gas accumulation which crosses the block boundary. Attempts to farm out the licence were not met with success, it was considered too small for the associated risk. The decommissioning of the Rose wellhead and pipeline to Amethyst A2D had the effect of moving the nearest tie in to an export route another 18km from the structure.

9. Publication:

All necessary permissions to publish have been obtained.