UK Onshore Licence PEDL 152
Relinquishment Report
August 2009

Licence Details

Licence Number :	PEDL 152	
Licence Round :	UK 12th Onshore Licensing Round	
Effective Date:	1 October 2004	
Licence Type :	Petroleum Exploration and Development Licence (Onshore)	
Block Number :	UK National Grid Block SZ68	
Operator :	NP Solent Limited ("Northern")	(62.5%)
Partners :	Magellan Petroleum (N.T.) Pty Ltd	(22.5%)
	Encore Oil Plc	(7.5%)
	Montrose Industries Limited	(5.0%)
	Oil and Gas Investments Limited	(2.5%)
Work Programme :	No committed work programme, drill-or-drop election to be made within the Licence's initial term	

Licence Synopsis

PEDL152 is located in the eastern part of the Isle of Wight (Fig.1) and is currently in the 5th year of its 6-year initial term. Per the commitment made at the time of the Licence being awarded, the Licence Group has decided to relinquish the licensed area in its entirety since it now considers there to be no remaining prospectivity within the licence's area.

Exploration Activities

The group has not undertaken any new seismic acquisition on Licence PEDL152 nor drilled any wells. As part of a larger programme extending over adjoining licences, the group has reprocessed all of the existing 2D seismic data over PEDL152 (ca. 29.4 km, Fig. 2) and has provided copies of the final processed lines to the UK Onshore Geophysical Library (UKOGL). These data have been interpreted and incorporated into the group's regional mapping over the Isle of Wight and surrounds.

Prospectivity Analysis

The primary reservoir target at the time of the Licence's award was identified as being the Bathonian Great Oolite limestone series, with additional potential offered by the possibility of there being a Sherwood sandstone sequence present, as evidenced by a reported thick sequence in the Arreton-2 well.

A structurally high, horst block trend had been mapped at Inferior Oolite level as an eastward extension of a major regional high block in the central part of the Isle of Wight.

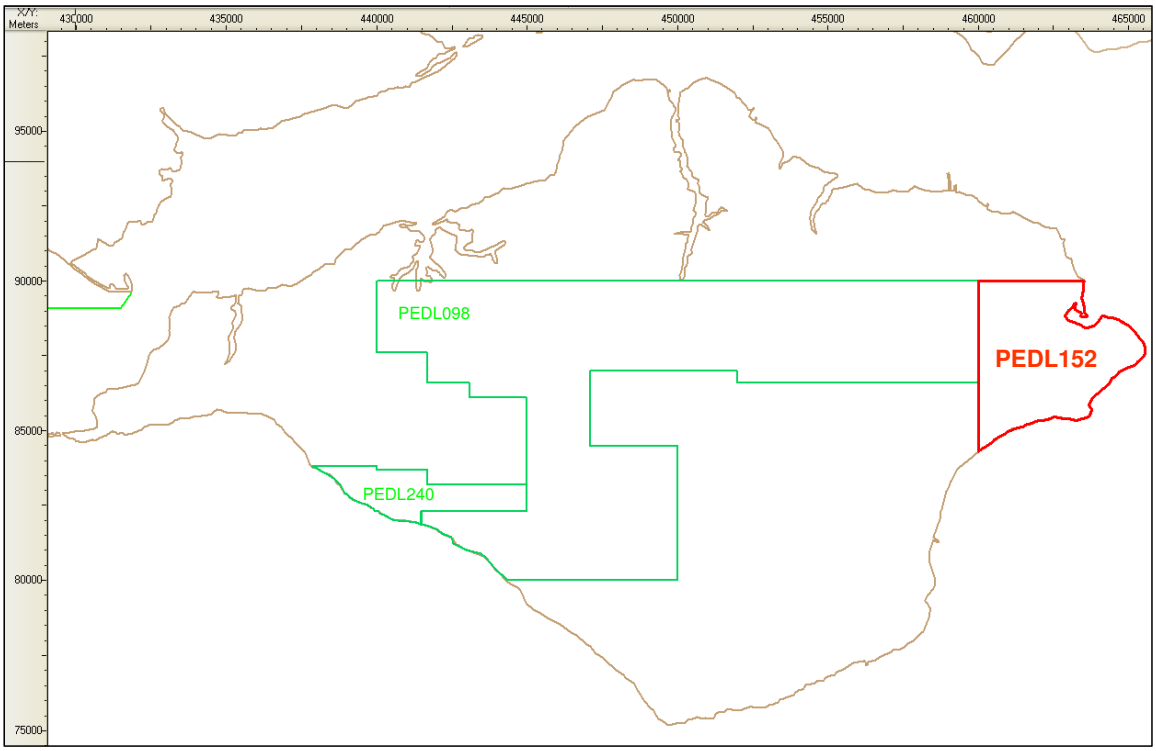

Figure 1 : PEDL 152 Location Map

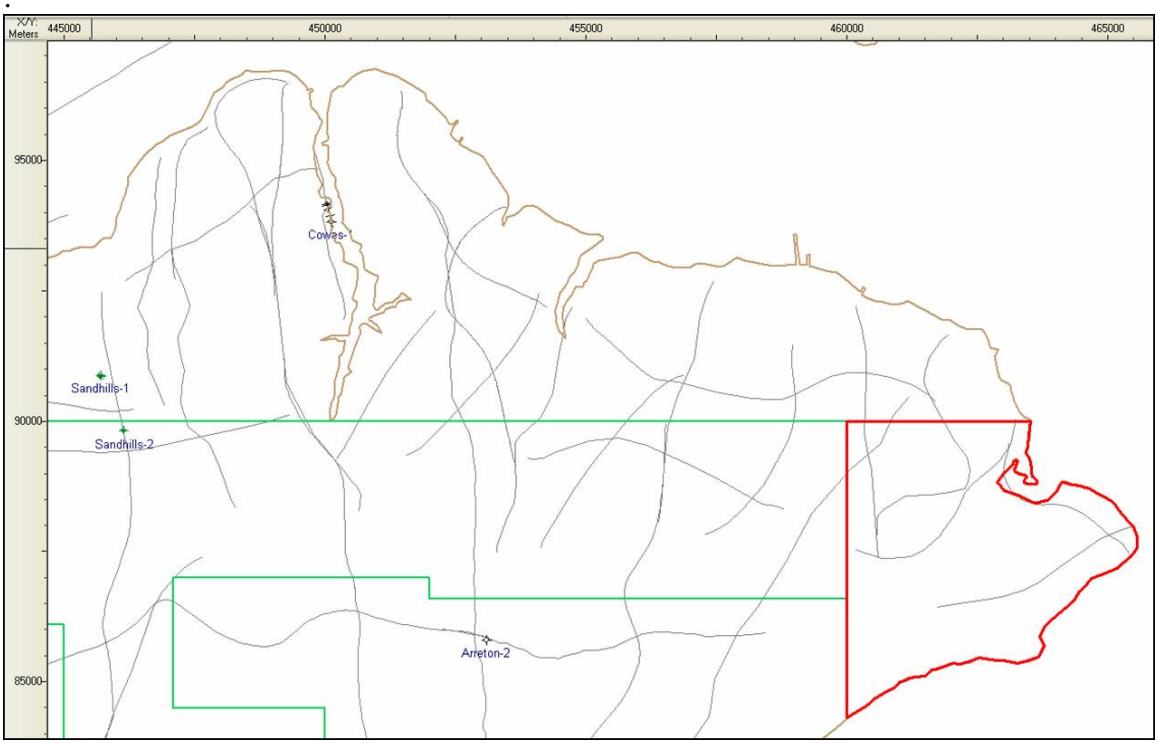

Figure 2 : PEDL152 Seismic and Well Database

This high had been penetrated by the Sandhills-1 well with significant oil shows recorded in the Great Oolite section. The horst trend was considered to be sufficiently prospective that the group decided to apply for what is now PEDL152, effectively as "protection acreage" pending its appraisal of the Sandhills structure with a second well.

The principal source rocks in the area are the Lower Jurassic Lias shales, although potential for oil generation also exists in Middle Jurassic Oxford Clay and the Upper Jurassic Kimmeridge Clay, the primary source of oil in the North Sea. The Lias shales, are interpreted to have been buried sufficiently deeply to generate oil in the area to the south of the Bembridge/Isle of Wight/Purbeck Disturbance. Oil and/or gas generation and migration is believed to have commenced during Lower Cretaceous times and to have continued until the area underwent significant inversion in response to Alpine tectonism during Miocene time when the source rocks were lifted out of the maturity window and oil/gas generation ceased. It is not clear whether the Oxford Clay has ever been buried deeply enough to become mature for hydrocarbon generation, although it is interpreted that the Kimmeridge Clay definitely has not. At Wytch Farm, Sherwood and Bridport sands produce good quality, light (37-38^{o} API), low sulphur (0.1-0.2%) oils which have been geochemically typed to the Lias source rocks. Northern's own geochemical analysis of oil extracted from sidewall cores in the Great Oolite in the Sandhills-1 well suggested that oil here is relatively heavy (ca 25^{o} API) but may have been affected by local biodegradation and/or sample deterioration over time.

Trap types which have been demonstrated to be effective in the Wessex Basin (Wytch Farm, 98/07-2, Sandhills etc.) were predominantly present as trapping mechanisms at the time of hydrocarbon generation and migration (Lower Cretaceous – Miocene). They generally take the form of a horst block bounded by normal faults with sufficient throw to have caused juxtaposition across the faults of reservoir rocks against an effective seal. Young structures (i.e. those formed as a result of Miocene inversion) are interpreted to post-date the primary generation and migration of hydrocarbons, although it is considered that they could possibly be charged with oil or gas leaking from existing accumulations breached during inversion.

Prospectivity Review

As a result of the drilling of the Sandhills-2 well, the group has concluded that the oil in the Great Oolite in the well and its predecessor was indeed severely biodegraded and impossible to recover from a relatively tight reservoir. Since the Sandhills structure is the largest and structurally highest feature in the area at the level of the Great Oolite (Fig.3), the group has concluded that it would be highly improbable that the reservoir quality would be significantly better over the horst block trend mapped into PEDL152, and that it is equally unlikely that any oil there would be significantly lighter and more easily moveable.

The group also undertook a detailed sedimentological review of the section reported as being Sherwood Sandstone in the Arreton-2 well as well as a detailed petrophysical analysis of the section. The two combined studies suggest that, in fact, only the uppermost 60-65 ft of the 950 ft section interpreted by the well operator is truly Sherwood with the remainder of the section being of pre-Variscan age, probably Devonian. This conclusion severely downgrades the likelihood of any Sherwood Sandstone being present in PEDL152 on the upthrown footwall side of the main Purbeck-Isle of Wight Disturbance fault system (Fig.4).

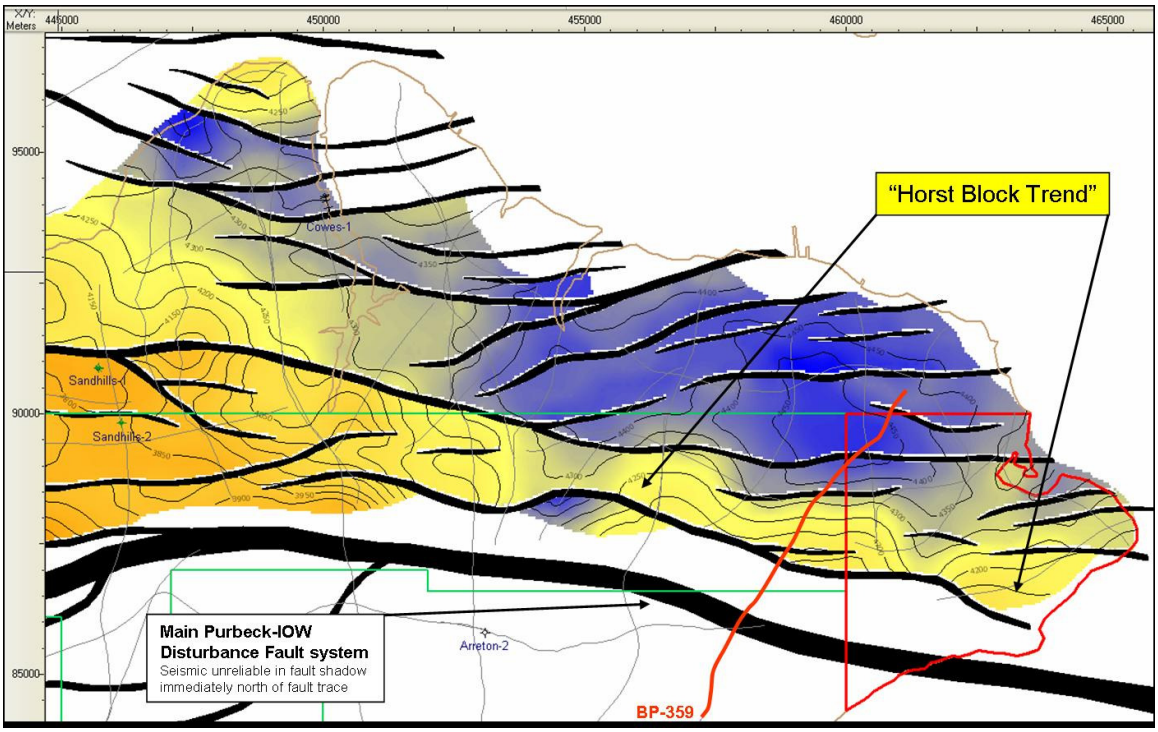

Figure 3 : Top Inferior Oolite Depth Structure Map, C.I. 50'

As a result of the foregoing, the PEDL152 group now believes that there is an extremely low likelihood of finding commercial quantities of hydrocarbons in any of the structures identified in the Licence area.

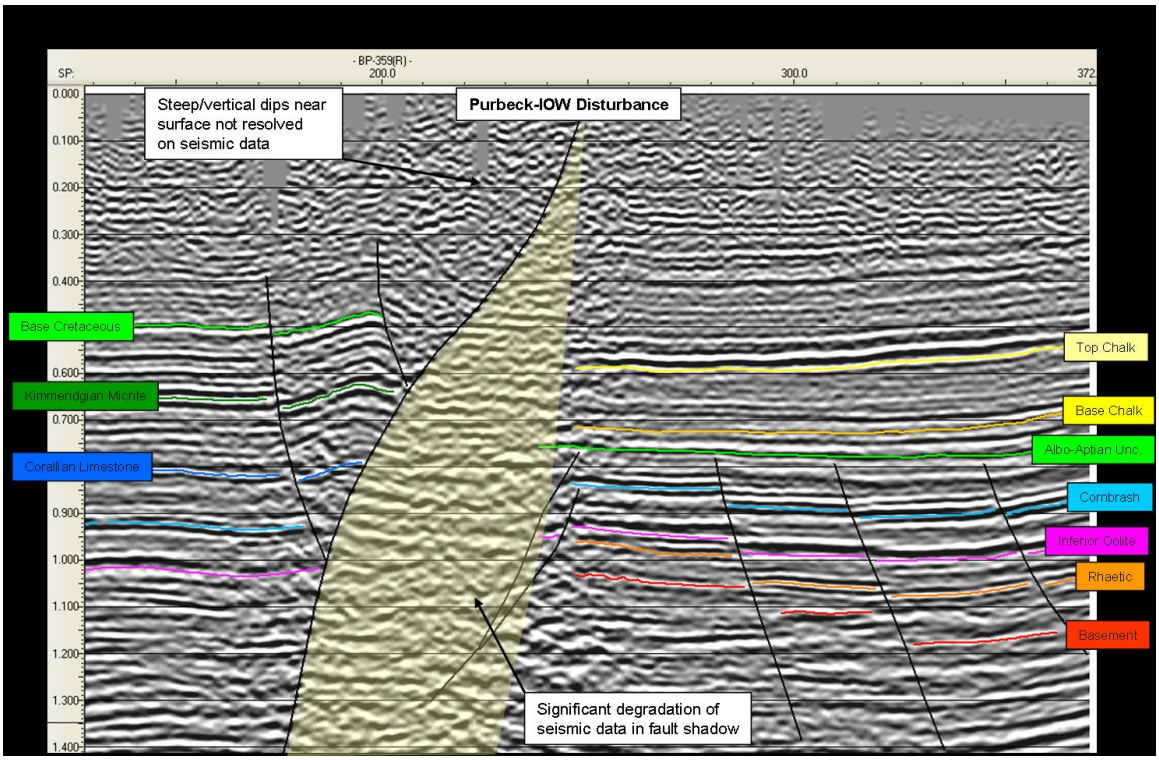

Figure 4 : Seismic Line BP-359 (Reprocessed)

Clearance

As operator for Licence PEDL152, NP Solent confirms that DECC may publish this Relinquishment report, and all 3rd party ownership rights have been considered and appropriately cleared for publication purposes