362012

WELL DURROON-1

NOTE: No electric log picks are shown for the drilled section, as variations in lithology, caused by localised depositional environments, prevent well log correlation. Therefore, correlations are based on a combination of spore-pollen zones and seismic markers, and thus may not relate to unique well log events

IX Water Depth 69m FORMATION TOPS/Zones

NAME	Tops M.D.	Tops Sub-sea	Gross Interval (ft)	Net Pay (ft). Gas	Net Pay (ft). Oil	REMARKS
Miocene-Oligocene	257	69m -225	875' 266m			Water Depth 225
Mid Miocene (Seismic marker)	1132	335m -1100	700' 214m	-	-	
"Upper Eocene Shale" Equivalent (Seismic marker)	1832	549m -1800	250' 76m	-		
Palaeocene L. balmei (Seismic marker)	2082	625m -2050	1580' 481m	-	-	
U. Cretaceous T. lilliei (Seismic marker)	3662	1106m -3630	1320' 403m	-	-	
Lower Cretaceous (Seismic marker)	4982	1509m -4950	4972'+ 1515m	-	-	

Eastern View Coal Measures

INTERPRETATIVE

X GEOLOGIC ANALYSIS (Pre Drilling prognosis Vs actual results)

Pre-Drill: The primary objective of Durroon-1 was to test an older sequence than had been previously penetrated in the Bass Basin. This sequence was interpreted to be of Lower Cretaceous/Jurassic age. The secondary objective was an even older sequence, presumed to be Permo-Triassic, as interpreted on seismic based on correlations with surface outcrops in Tasmania. The location of Durroon-1 was on the high side of a large northwest-southeast trending fault, with updip closure predicted for both the primary and secondary objectives. The lithology of the primary objective was inferred to consist of fluvial sands, coals, silts and shales. The Tertiary section was anticipated to be much thinner, but similar to that previously encountered in other Bass Basin wells, with Paleocene and Eocene sands sealed by Late Eocene shales and Oligocene/Miocene clays, silts, marls and carbonates.

Post Drill: The Tertiary time-units penetrated in Durroon-1, came in essentially as mapped except for the absence of a predicted M. diversus zone, and a thicker than predicted Paleocene section. However, below this the geologic ages predicted were too old. The predicted Cretaceous section was found to be only the Upper Cretaceous, whilst the predicted Jurassic and Permo-Triassic sections were found to be all Lower Cretaceous, the oldest sediments penetrated being Aptian.

There were lithologic variations also. The "Upper Eocene shale", and much of the Oligocene-Miocene clays, silts and marls seen in other wells are equivalent to a coarse-grained sandy facies at Durroon-1. The remainder of the Eocene, Paleocene and Upper Cretaceous section consists of predominantly coarse-grained sands with an increase in shale content towards the base of the Upper Cretaceous. The Lower Cretaceous section consists of coals, shales, siltstones and sandstones containing abundant lithics and volcanics, overlain by a thick sequence of volcanics similar to those penetrated at Bass-2. Generally, these sandstones are fine to coarse-grained but with low porosities and permeabilities due to the presence of both a clay matrix and the subangular, poorly sorted lithics.

There were no shows recorded whilst drilling Durroon-1, and this was later substantiated by electric log interpretation. Abnormal pressure was neither predicted nor encountered and the well was plugged and abandoned as a dry hole.

The sands throughout the Tertiary and Upper Cretaceous section are ideal for reservoiring hydrocarbons. However, the lack of adequate structural closure and lack of a seal probably accounts for this section being dry. The Lower Cretaceous sandstones appear to be limited as reservoirs due to the observed poor porosity and permeability. There is adequate structural closure for these sediments, but the poor reservoir quality and an inadequate source of locally generated hydrocarbons is the primary reason for the lack of success.

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