# **Roc-1 well update** 23 December 2015



## Highlights

- Previously reported 25 metre zone indicates on further evaluation:
  - Additional 15 metre contiguous zone to make a total of 40 metres gross sandstone from 4,380 to 4,420 metres which contains indications of hydrocarbons
  - Light oil present as inferred from mud log gas ratios
  - o Conventional reservoir quality sandstone interpreted from petrophysical data
  - Further updip potential interpreted from seismic mapping
- Joint venture proposes to deepen well to around 4,950 metres before undertaking wireline logging activities to assess the above

Carnarvon Petroleum Limited ("Carnarvon") (ASX:CVN) provides the following update on drilling operations as advised by the operator of the Roc-1 well, Quadrant Energy.

#### Progress

Since the last report the 216 mm (8 %") hole has drilled from a depth of 4,435 metres to approximately 4,855 metres.

#### **Current Operations**

As at 06:00 hours on 23rd December 2015 the well was drilling ahead in the 216 mm (8 %") hole section at approximately 4,855 metres.

#### **Forward Plan**

The joint venture is encouraged by the previously reported evidence of a working petroleum system in the current well, and the observations of good quality sandstone sections, to continue drilling below the previously announced target depth of 4,750 metres.

It is expected to take at least another day to drill through to anticipated total depth of around 4,950 metres and condition the borehole for wireline logging. The information from the wireline logging tools is expected to take up to a further five to seven days to be obtained.

The operator has proposed a suite of wireline logging including quad combo for resistivity and density/neutron measurements, formation pressure tools to determine fluid types (including fluid sampling) and pressure and mechanical sidewall coring tool to extract rock samples for later testing.

The logging results are expected to provide additional information on, for example, the type of hydrocarbons present and the quality of the reservoir containing those hydrocarbons. One use of this information will be for the estimation of hydrocarbon volumes recoverable. Given the characteristics of the reservoir it is envisaged that volume estimates could be completed within a reasonable period following the well being completed. **Technical Evaluation** 



As previously reported (ASX – 18 December 2015), a clean 25 metre gross sandstone was observed in the well with gas and oil indications from mud logging while drilling. Detailed log analysis has suggested that the sandstone extends a further 15 metres to make total gross sandstone of 40 metres with hydrocarbon indications from mud log.

Further evaluation of the ratios of the different compositions of C1 through to C5 have inferred a light oil consistent with that extracted from the nearby Phoenix South-1 well. Wireline logging formation sampling tools will confirm the fluid type.

Petrophysical evaluation of the downloaded data from the logging while drilling tools has interpreted the sandstone to have porosities in the range of 10 to 13% indicating a conventional sandstone reservoir for this depth. Wireline logging tools will confirm this evaluation.

Wireline logging interpretation will also be used to determine the net pay in the gross sandstone sections above.

Interpretation of the 3D seismic data at this depth points to a large mappable structure up to 54 km<sup>2</sup> in area with significant updip reservoir potential. Updip reservoir is relevant because it has the potential to increase the sandstone sections potentially containing oil and gas indications which ultimately could add to recoverable oil volumes.

#### Location

The Roc-1 well is located in WA-437-P, approximately 20km south-east of the 2014 Phoenix South-1 oil discovery, and around 150km north of Port Hedland.

The equity interest holders in WA-437-P are:

Carnarvon Petroleum	20%
Quadrant Energy ( <i>Operator</i> )	40%
JX Nippon	20%
Finder Exploration	20%

Yours faithfully

Adrian Cook Managing Director Carnarvon Petroleum



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