

# Cerberus Project Update – Carnarvon Basin

23 June 2015



## Highlights

- **Two outstanding oil prospects identified**
- **Meaningful oil volumes with multiple follow on prospects**
- **Early Triassic systems discovered at Phoenix are present in Cerberus Blocks**
- **Low cost drilling in shallow water with shallow depth reservoir targets**
- **Significant value proposition for modest investment**

Carnarvon Petroleum Limited (“Carnarvon”) (ASX:CVN) is pleased to provide an update on the work undertaken on EP-490, EP-491 and TP/27 exploration blocks (100% Carnarvon) in the Carnarvon Basin in the North West Shelf offshore Western Australia, collectively termed the “Cerberus” blocks, on the first anniversary of the Company being awarded the blocks.

## Proven hydrocarbon province

Carnarvon’s intentions are to expand its exploration portfolio in the North West Shelf beyond the successful Phoenix blocks, where the Phoenix South-1 oil discovery last year proved a new play type.

The Carnarvon Basin is Australia’s premier hydrocarbon province and resides within the North West Shelf. The Cerberus blocks are within the Carnarvon basin.

Carnarvon was originally attracted to the Cerberus blocks given the areas proven source rocks, effective reservoir and seal combinations and on-trend discoveries providing the potential for significant discoveries in this acreage.

The Carnarvon team has extensive knowledge of the Carnarvon Basin, including its knowledge of the early Triassic petroleum systems discovered in the Bedout Sub basin through the Phoenix South-1 oil discovery in 2014, and has utilised this knowledge to identify two outstanding new oil prospects within the Cerberus Blocks. The team believe these two prospects to be the first of many in the Cerberus Blocks.

## Proximal oil and gas fields

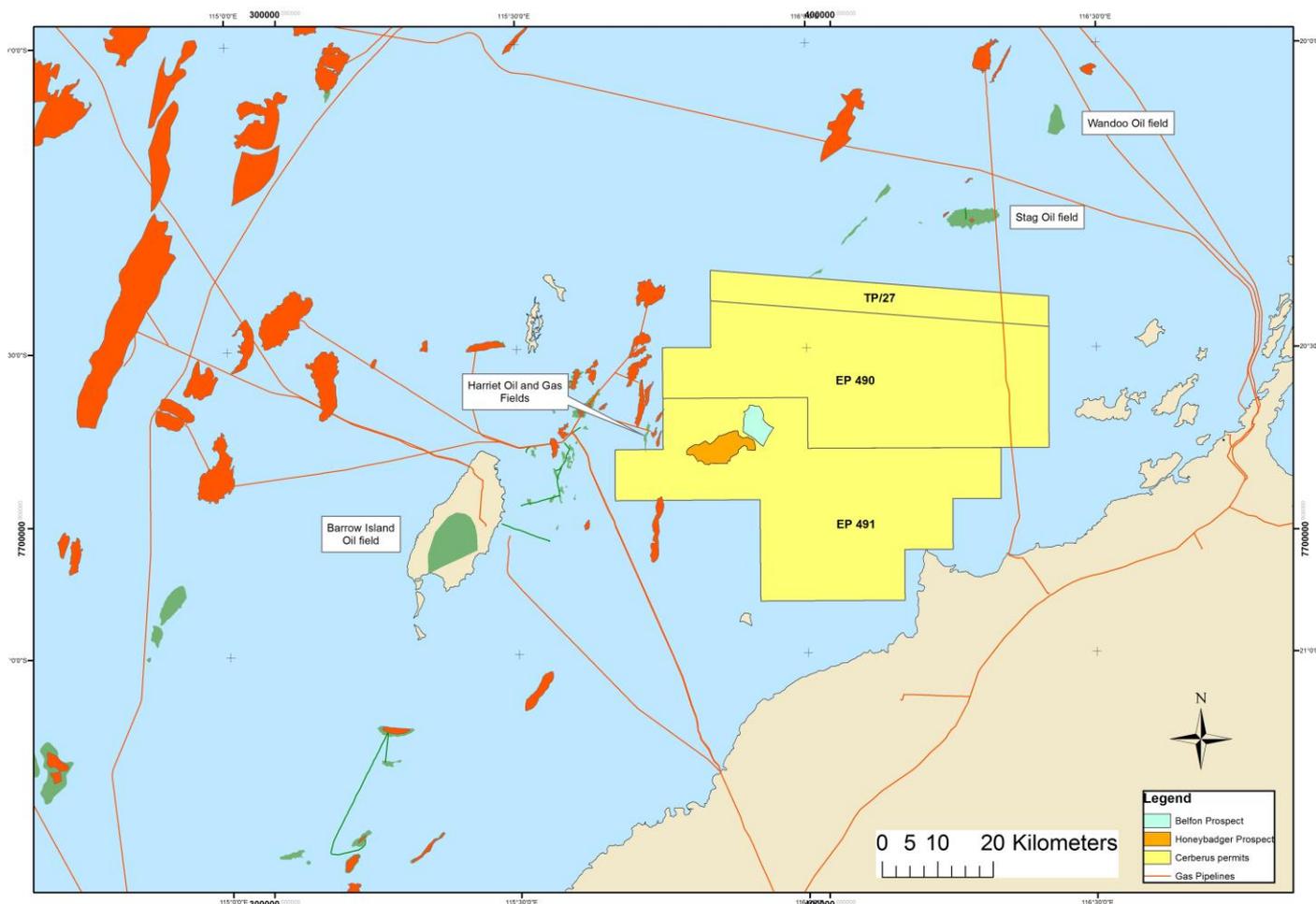
The three fully owned Cerberus blocks cover a combined area of approximately 3,200 km<sup>2</sup> within close proximity to some of the country’s largest and most prolific oil and gas fields.

To the north of the Cerberus area, the Wandoo Oilfield had an estimated 250 million barrels of oil originally in place at a depth of approximately 600 metres.

Also immediately to the north of Cerberus is the Stag Oil Field, which has an estimated 125 million barrels of oil originally in place at a depth of approximately 700 metres.

To the west of the Cerberus Blocks, the Barrow Island oil field has produced over 300 million barrels of oil since its discovery in 1964, whilst the Harriet oil and gas fields have produced over 75 million barrels of oil and almost 400 bcf of gas.

The Cerberus Blocks are located in an iconic hydrocarbon region and have the potential to host a number of similar sized oil fields as in the neighbouring blocks.

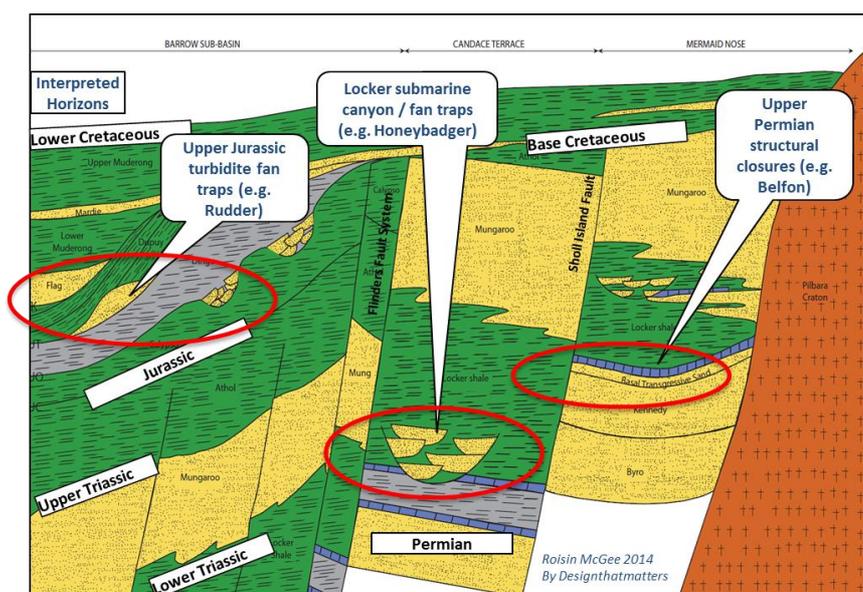


## Large oil targets

Early resource analysis indicates meaningful volume estimates for a number of well-defined prospects and leads.

In particular the Belfon (Upper Permian) and Honeybadger (Early Triassic) prospects are estimated to contain significant volumes of recoverable oil.

Detailed analysis is ongoing to refine these prospect volume estimates and further updates are planned to provide shareholders with this information in due course.



The Honeybadger prospect is defined as a middle slope turbidite channel complex, expected to be filled with high net-to-gross sands.

Importantly there is a stratigraphic and a structural element to this prospect, with a high chance of stacked pay.

The Belfon prospect is defined as a tilted fault block structure, with Permian Kennedy reservoir sealed by the regional overlying Locker shale.

Five Jurassic prospects exist (1,000-1,500 meter target depths) with a further set of Cretaceous shallow (circa 500 metres target depth) oil prospects which could be large in the context of North West Shelf oil prospects and are the focus of the current stage of geoscience studies.

### **Low drill cost**

The two primary drilling targets, Honeybadger and Belfon, lie in 25 to 30 meters water depth, around 100km from the major port of Dampier, the centre of logistics support for oil and gas operations on the Northern Carnarvon Basin. This water depth is ideal for the employment of cheaper jack-up drilling rigs.

The reservoir depths are between 1,000 to 3,000 metres subsea, with the time required to drill down to total depth to test these targets estimated to be between ten to fifteen days. These factors result in the independently estimated total cost to drill each prospect from as low as US\$10 million per well in the current environment.

### **Sufficient time**

Carnarvon acquired the Cerberus exploration blocks in May 2014 for a work program including reprocessing of 3D seismic, mapping and interpretation during the first three years.

Given the technical work that Carnarvon is expending in the area, the Company expects to comfortably exceed the work program.

Importantly the first drilling obligations in the work program to the government (being two wells) occur within permit year 4, which is outside the minimum obligation for these types of exploration blocks, and so is contingent rather than a commitment. Carnarvon therefore has until May 2017 to commit to drilling these wells.

### **Thorough technical work**

Carnarvon was awarded the three Cerberus exploration blocks in May 2014, with a nominal work program covering the first three years.

Since permit award, the Carnarvon geoscience team has significantly de-risked the area through its technical work, including:

- Licensing and interpretation of the reprocessed 3D Monodon mega-merge survey to ensure the prospects being assessed are on the best possible 3D data;
- Detailed analysis of the only 16 Early Triassic and Upper Permian wells that previously drilled in and around the Cerberus blocks to improve data accuracy and understanding. The most recent of these wells was in the 1980's much like the Phoenix-1 well was;
- Renewed petro-physical analysis of 30+ wells in the Carnarvon Basin for enhanced understanding of the Early and Upper Permian reservoirs in the blocks plus Jurassic and Cretaceous reservoirs; and
- Drill core review, fluid inclusion studies and biostratigraphy and source rock analysis to fully understand the Early Triassic source rocks and migration potential into prospects.

Some of the geoscience work outlined above has addressed the recent implications that the Early Triassic Phoenix South-1 oil discovery has on the Cerberus blocks.

It has become apparent through integrating the results at Phoenix South-1 and then reviewing the whole of the Early Triassic on the NW Shelf of Australia that the same petroleum system extends into the Cerberus blocks within this newly recognised Early Triassic petroleum system.

There are now several Early Triassic and Upper Permian prospects with additional multiple Jurassic and Cretaceous prospects identified at shallow target depths which could be drilled using jack-up rigs.

**Carnarvon's Managing Director, Mr Adrian Cook said:**

*"Last May we secured the Cerberus blocks based on a number of geological concepts, including those we saw in Phoenix and thereafter proved successful in the Phoenix South-1 oil discovery announced in August last year.*

*I am particularly pleased with the technical work that has gone into the Cerberus project in the year since award.*

*This project represents a very attractive value proposition for a modest investment, wherein large oil prospects identified on quality 3D seismic data, situated in a prolific hydrocarbon region, can be tested for a relatively low cost.*

*As our technical work draws to a close we have commenced the next phase of work in these blocks, that in the short term, will comprise obtaining the necessary approvals to undertake drilling and other exploration activities.*

The equity interest holders are:

**EP-490, EP-491 and TP/27**

<b>Carnarvon Petroleum (Operator)</b>	<b>100%</b>
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**Yours faithfully**



**Adrian Cook**  
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