Buffalo project update

15 May 2017

CARNARVON PETROLEUM LTD

Highlights

- **New seismic technology proves very successful in removing critical velocity errors**
- **The new data is expected to significantly improve interpretation and identification of oil prospects**
- **Interpretation work has commenced and will be completed in the second half of the year**

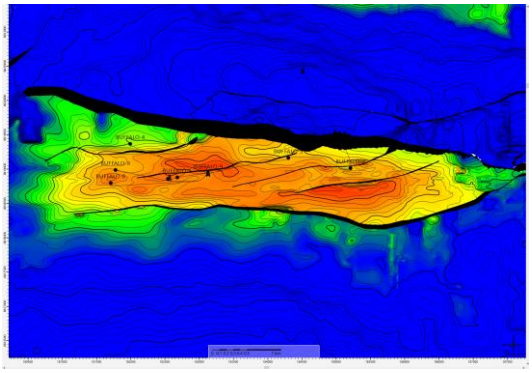
Carnarvon Petroleum Limited ("Carnarvon") (ASX:CVN) is pleased to provide the following update on its 100% held WA-523-P exploration permit, being the Buffalo project.

The WA-523-P permit (*refer Figure 1 for the permit map*) is in a proven petroleum system with the permit containing the Buffalo oil field that was producing around 4,000 barrels of oil per day when it was shut in. The permit also contains two proven but undeveloped oil pools at Bluff-1 and Buller-1. There are also significant oil fields within permits adjoining WA-523-P including the 200 million barrel Laminaria-Corallina field.

Carnarvon secured the Buffalo project in May 2016 with the objective of:

1. Applying new technology, including Full Wave Inversion ("FWI") processing, to determine if it could overcome historic seismic imaging challenges that severely compromised the legacy oil field development and exploration efforts; and
2. If successful, use the improved data to identify new oil targets in this proven and prolific oil field region.

The reprocessing has recently been completed with impressive improvements in data quality. As illustrated below the resulting data produces significantly clearer definition of the key zones relevant for prospect identification.



The above preliminary depth map (*Refer Figure 2 for enlarged map*) over the former Buffalo oil field indicates a very different structural geometry of the field compared with legacy maps. It also identifies a potentially significant previously unidentified, undrilled and unproduced fault block to the east of the original Buffalo development.

Previous drilling in the area shows that there were significant challenges targeting oil filled structures because of seismic velocity control issues (*refer Figure 3 containing an illustration of the old seismic data*). Carnarvon has been able to correct these seismic velocity control issues with modern processing technologies not previously available (*refer Figure 4 containing an illustration of the new FWI reprocessed data*).

Carnarvon recently commenced interpreting the data to more accurately map the Buffalo field and the two discoveries at Bluff-1 and Buller-1. This work will extend to other undrilled structures in the permit to mature a portfolio of targets for further assessment.

Once this work has been completed, and provided it supports prospective targets warranting drilling, Carnarvon will then seek a partner or partners to participate in the drilling activities.

Yours faithfully

Adrian Cook
Managing Director
Carnarvon Petroleum

About WA-523-P (Buffalo project)

Carnarvon acquired the exploration permit in May 2016 by committing to undertake a work program that included the reprocessing the existing 3D seismic data.

The permit is located in the Bonaparte Basin in the north of the North West Shelf of Western Australia.

Carnarvon holds the permit 100% and is the operator.

Shareholder enquiries

Mr Thomson Naude
Company Secretary
Phone: (08) 9321 2665
Email: investor.relations@cvn.com.au

Figure 1. Permit map showing nearby fields

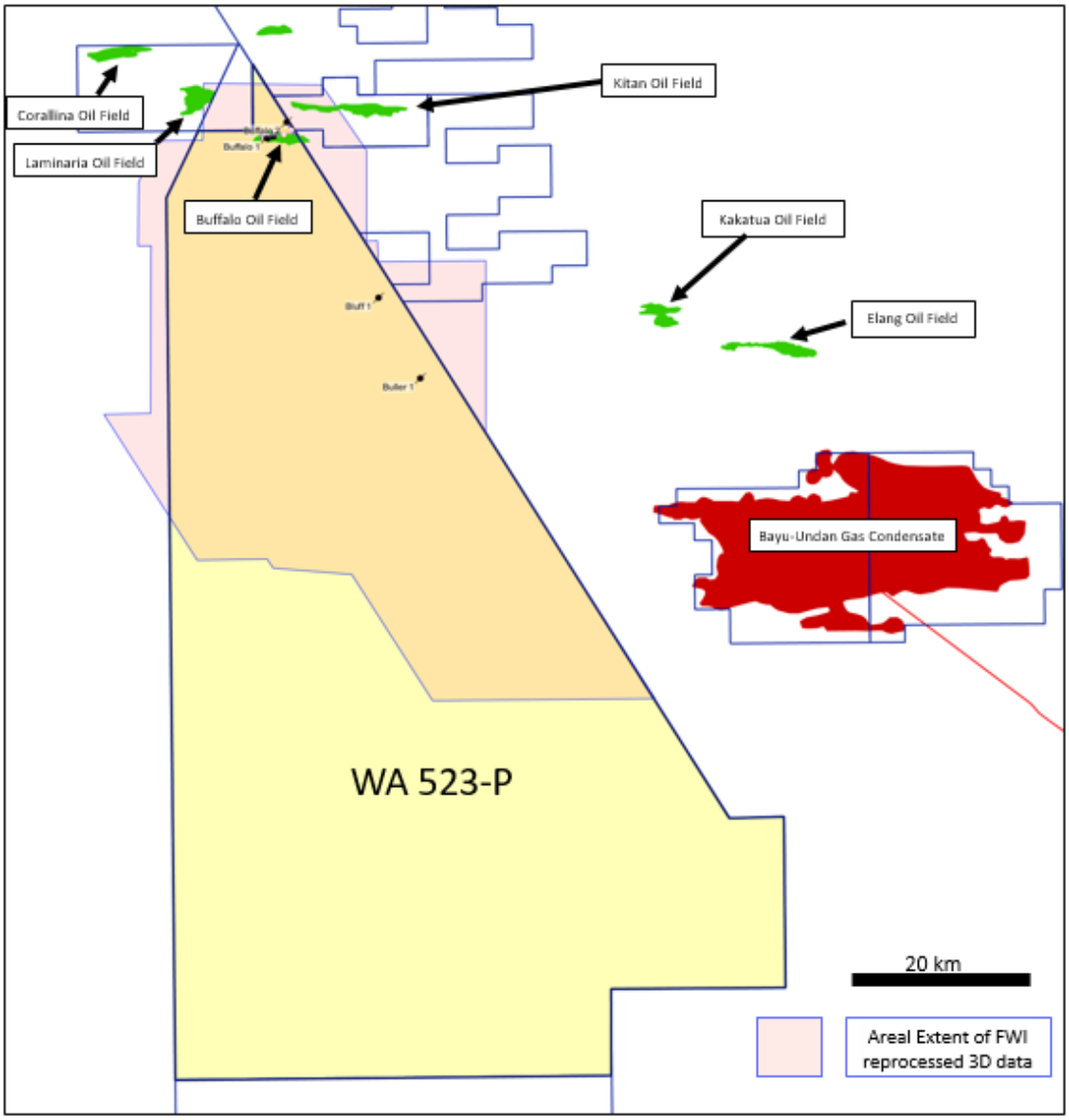


Figure 2. Preliminary depth map, based on the newly imaged seismic data over the former Buffalo oil field

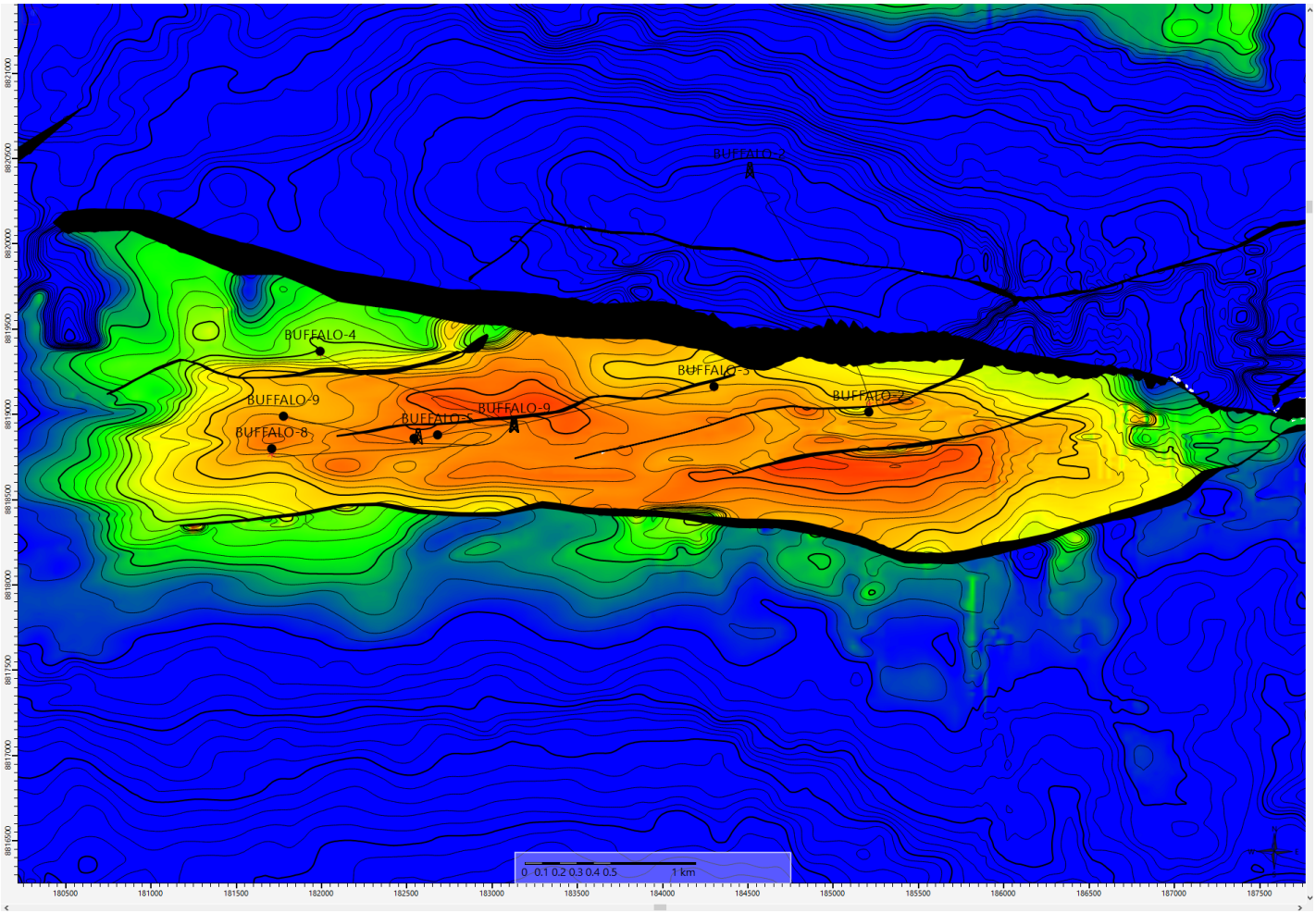


Figure 3. Legacy 3D Data through Buffalo-1, primary target indicated by yellow circle, major imaging issues generated by seabed topography.

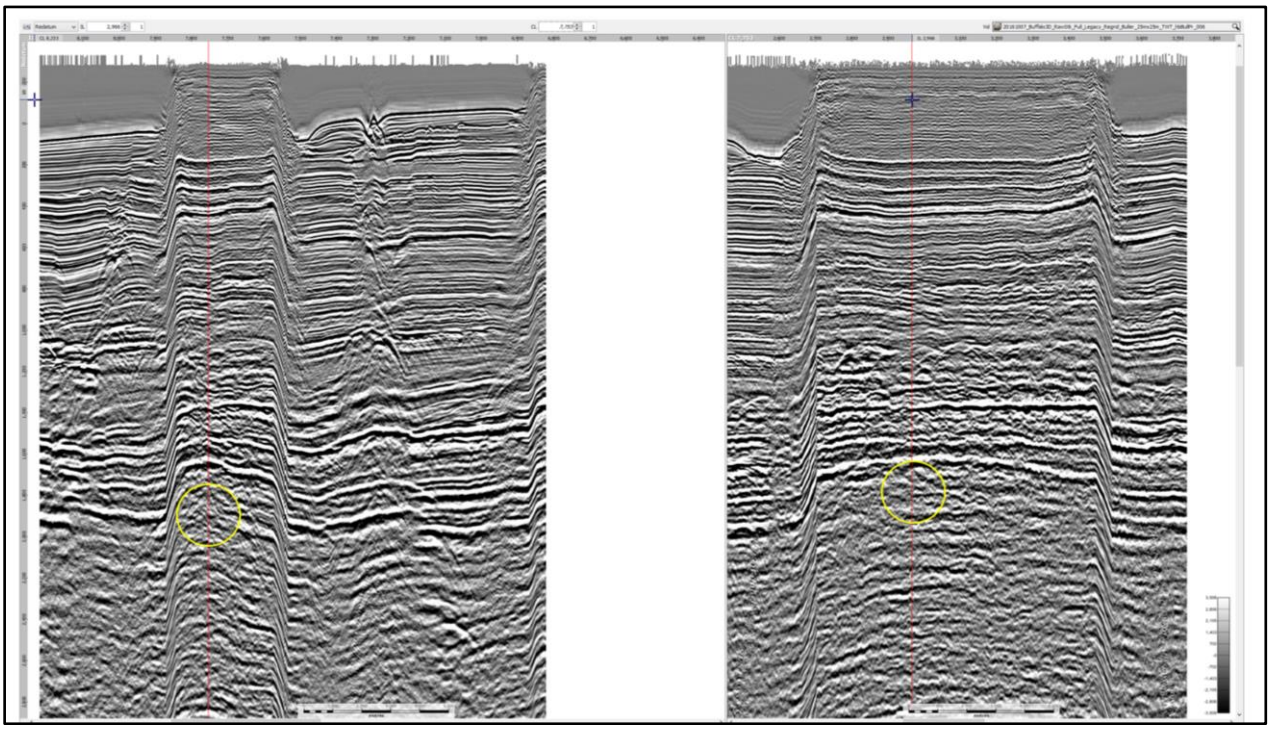


Figure 4. New FWI reprocessed 3D data (Same line location as Figure 1), showing significant imaging improvements and amelioration of seabed topography effects.