

# Sandstone well tests 550 BOPD

23 September 2010



## THAILAND L44/43 CONCESSION (CVN 40%)

### SUMMARY

The WBExt-1B well has been completed in the "F" sandstone at a depth of around 570 m TVD and is flowing at a rate of 550 BOPD, with associated water cut of less than 2%. This is a significant result from a relatively shallow well, several kilometres from the nearest other sandstone production wells at the Wichian Buri field. The test rate of 550 BOPD is almost double the next best production rate within that field.

Further potential from the other sandstone reservoirs in the vicinity is interpreted from drilling and log responses from the other WBExt wells and also in shallower horizons in this well.

WBExt-1B also confirmed oil within the WBV1 volcanic at a distance of over half a kilometre from the producing WBExt-1 well, albeit close to the oil water contact. This confirms an interpreted 73m oil column over an aerially extensive area.

Details on the results of the well is attached overleaf.

Further appraisal of the Wichian Buri Extension oil field, at both the volcanic and sandstone levels, is being undertaken with the currently drilling WBExt-1B well. This well is around 1.5km to the West of the currently flowing WBExt-1, 1A and 1B wells.

Continued exploration/appraisal of the Wichian Buri Extension oil field is expected over the next few months.

Including the 550 BOPD from the WBExt-1B well, combined production from all of Carnarvon's onshore Thailand oil fields is currently 12,585 BOPD (5,034 net CVN).

As previously reported, an additional 3,470 BOPD gross (1,388 net CVN) production capacity is currently shut in on concession L33/43 pending the award of a production license anticipated in January 2011.

Carnarvon's total production capacity is in excess of 16,000 BOPD gross or 6,400 BOPD net to CVN.

WBExt-1B testing at  
550 BOPD from  
sandstone reservoir

WBExt-2 drilling  
ahead at 850 m  
TVD

Carnarvon net  
production over  
5,000 BOPD

Carnarvon net field  
capacity over 6,400  
BOPD

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## **WBEXT-1B Exploration/Appraisal well (Wichian Buri Extension Field)**

The WBEXT-1B exploration / appraisal well is currently producing oil utilizing an electrical submersible pump at an average rate of approximately 550 barrels of oil per day gross (220 BOPD net CVN) of 35 degree API oil and seven barrels of drilling and completion fluid per day as the well continues to clean up.

This is the highest production rate from a sandstone reservoir of any well drilled in Concession L44 and is a good result given the shallow 570 metre depth of the "F" sand reservoir.

The WBEXT-1B well was drilled from a surface pad adjacent to the WBEXT-1 and WBEXT-1A wells with the original objectives of:

- a) Logging the shallow sandstone zones, and
- b) Establishing a minimum oil column in the WBV1 volcanic reservoir.

The top of the WBV1 volcanic reservoir was encountered at a depth of 890 metres true vertical depth ("TVD") and severe drilling fluid losses, indicating excellent permeability, were encountered at 908 metres true vertical depth. A total of 40 metres true vertical thickness of the volcanic reservoir had been drilled when the decision was made to sidetrack the well 120 metres to the northeast of the original volcanic reservoir penetration due to the lack of oil shows observed while drilling the volcanic.

The sidetrack well encountered the top of the WBV1 volcanic reservoir at a depth of 857 metres true vertical depth, 33 metres higher than the original WBEXT-1B well bore and 73 metres structurally lower than the top of the WBV1 volcanic reservoir in the WBEXT-1 discovery well. Severe drilling fluid losses were observed in the upper four metres of the target volcanic reservoir and the decision was made to terminate drilling. Testing of the WBV1 volcanic reservoir resulted in the initial recovery of fluids at a rate of 1,200 barrels per day initially comprised of 40% oil and 60% water and turning to 97% water early in the first day of a two day testing period. The well is interpreted to have been drilled at, or very near, the oil / water contact resulting in an interpreted oil column of 73 metres defined between the WBEXT-1 and WBEXT-1B wells. With the WBV1 volcanic reservoir at the WBEXT-1B location highly unlikely to be a commercial well, it provided the opportunity to test shallower sandstone zones that appeared highly prospective on logs and which exhibited strong indications of hydrocarbons while being drilled by the WBEXT-1, WBEXT-1A and WBEXT-1B wells.

In summary, the WBEXT-1B well has achieved a number of important goals in the early development of the WBEXT field including:

1. Establishing conventional sandstone production of 550 barrels of oil per day gross (220 BOPD net CVN) in an area significantly further north and east of where it was believed good reservoir quality sandstone zones were likely to be present based on prior well data.
2. Defining a significant oil column of approximately 73 metres within the WBV1 volcanic reservoir between the discovery well at WBEXT-1 and the inferred oil / water contact encountered at WBEXT-1B.

3. Proving the WBV1 volcanic reservoir to be at least 40 metres thick in this fault compartment.
4. Upgrading the potential for additional interpreted net oil pay of approximately 12 metres in thickness that remains to be tested in the shallower overlying sandstone section.

As with the underlying volcanic reservoirs, the sandstone reservoirs in this region are involved in a structurally complex area of independent fault compartments that may or may not share the same oil water contacts if proven hydrocarbon bearing. Additional wells will be required to define the sand distribution, potential oil / water contacts of each fault compartment and the overall reserve potential of this discovery.

### **WBEXT-2 Exploration/Appraisal well (Wichian Buri Extension) Field**

The WBEXT-2 is currently drilling ahead at a true vertical depth of approximately 850 metres towards the top of the primary WBV2 volcanic reservoir objective from a surface pad located 1.4 kilometres northwest of the WBEXT-1 well pad. Drilling is anticipated to be completed within the next five days at which time testing will be conducted if technically justified.

### **Permit Equity**

#### ***L33, L44 and SW1A***

Pan Orient Energy (TSX:POE):	60% and Operator
Carnarvon Petroleum (ASX:CVN):	40% and Non Operator