



A.C.N. 004 247 214

**Lakes Oil N.L.**

# Quarterly Activities Report

For the three months ended  
31 December 2012

## Highlights:

- **State Government Moratorium on Fracture Stimulation**
- **PRL 2: Proposed Wombat 3 oil testing**
- **PEP 166: Drilling commences in Yallourn Power 1 corehole.**
- **PEP 169: Proposed Otway 1 well in the Otway Basin.**
- **Capital Raising**

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**The company operates a web site which directors encourage you to access for the most recent information on the Lakes Oil Group.**

## CORPORATE ACTIVITIES: HIGHLIGHTS FOR THE QUARTER

### State Government Fracture Stimulation Moratorium in Victoria

As stated in the last quarterly report, the State Government imposed a moratorium on fracture stimulation in August 2012 that has particularly affected Lakes Oil's proposed fracture stimulation programs in PRL 2 and therefore a change in the company's focus has been deemed necessary while the moratorium is in place.

Lakes Oil has decided that while awaiting the lifting of the moratorium, the Company will not 'sit still' but will go forward into 2013 with an exciting program.

As a result of the moratorium, all relevant permits have been granted a suspension and extension of one year by the DPI (Department of Primary Industries).

### Drilling Operations in PEP 166

Yallourn Power 1 core hole was spudded in late December 2012. (Lakes Oil 75% : Armour Energy 25% joint venture). On 18th January 2013, the depth was 166 metres RT.

### Proposed Drilling in PEP 169

Lakes Oil together with its partner Armour Energy plan to drill a new well, Otway 1, very close to the Iona Gas Field in the Otway Basin. We are hopeful that we can drill in the first quarter of 2013 and are currently going through the approval process.

This well is based on 3D seismic mapping and has two 'bright spots' or amplitude anomalies visible in the seismic data that could possibly be oil or gas.

### Evaluation of PEP 166 and PEP 169 drilling results continues

Two wildcat exploration wells were drilled during 2012 by Lakes Oil (operator) and its partner Armour Energy Ltd, one in the Otway and the second in the Gippsland Basin. Both wells encountered hydrocarbons in tight formations and are currently being further evaluated. Lakes Oil considers that both wells are tight gas discoveries and further evaluation of the data obtained is being conducted. Of course, full evaluation can only take place when the moratorium is lifted.

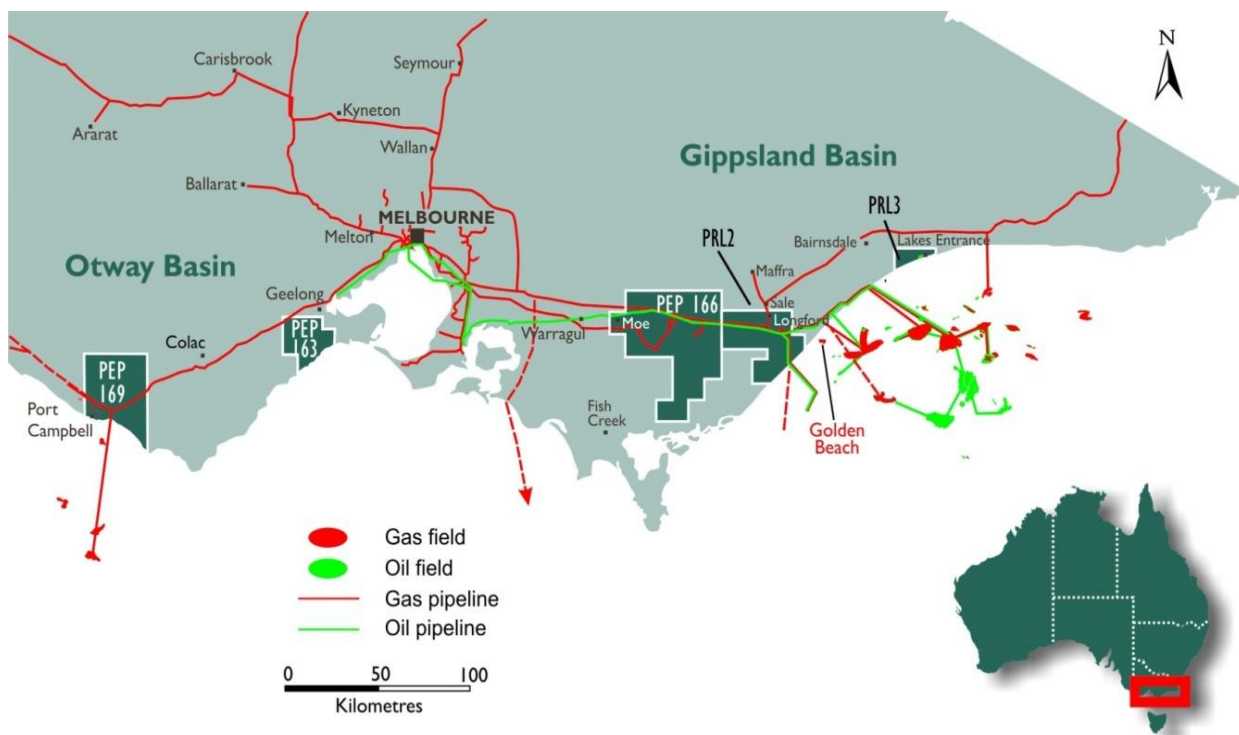
### Independent U.S. Expert

In November 2012, Lakes Oil hosted a successful corporate business lunch and internal workshop on unconventional resources with Mike Mullen (of SPC in Denver) an internationally renowned expert in unconventional resources. He reviewed the latest global trends in technology led by major new developments in resource extraction, particularly in the U.S. in tight gas, shale gas and shale oil.

He provided the Company with an independent professional opinion on Lakes' tight gas projects that compares Lakes' stacked tight gas sands with successful U.S. fields such as the Piceance Basin, Jonah Field and Pinedale Anticline. He considers that with the right drilling and stimulation techniques, there is potentially a huge gas resource waiting to be tapped in Lakes Oil's permits.

### Capital Raising

During the quarter the Company raised \$2.29 Million from a non-renounceable rights issue of listed unsecured converting notes at \$10 each as announced on 23 October 2012. A shortfall of \$4.91 Million exists which the directors have reserved the right to place at their discretion during the 3 month period following the close of the offer (i.e. 17th March 2013)



**Lakes Oil's Victorian permits map**

## ONSHORE GIPPSLAND BASIN

### PRL 2

*(Lakes Oil Group, 85%% interest in the overall permit, except for the Trifon and Gangell blocks where Lakes Oil Group has a 42.5% interest and Jarden Corporation Australia Pty Ltd has a 42.5% interest.)*

*Beach Energy Ltd (Beach) – 10% interest in overall permit subject to completing certain exploration expenditure. Somerton Energy Ltd, a wholly owned subsidiary of Cooper Energy Ltd (Somerton) – 5% interest in overall permit subject to completing certain exploration expenditure.*

*Beach Energy Ltd – Operator for overall Permit.*

*Stage 1 of the farmin agreement under which Beach and Somerton earn their above interests, consisting of fracture stimulation and testing of Wombat 4 and Boundary Creek 2, has been placed on hold due to the fracture stimulation moratorium.*

*Beach and Somerton did not exercise their option to earn further equity by conducting further work beyond Stage 1.*

*Armour Energy Ltd has been granted a 3 year option to acquire (subject to the terms of existing agreements with Beach Energy Ltd and Somerton Energy Ltd) 50 % of Lakes Oil Group's interests in the Trifon and Gangell blocks, and a direct 25% interest in the remainder of PRL2, for a total payment of \$30 million. This option has a maximum lifetime value of \$0.6 million.*

## PLANNED FUTURE ACTIVITIES

### Wombat 4 and Boundary Creek 2 Fracture Stimulation

Due to the State Government Moratorium on fracture stimulation, Lakes Oil and its joint venture partners were not able to conduct the intended fracture stimulation programs in Wombat 4 and Boundary Creek 2 scheduled for late 2012.

Currently, the Company is looking at an alternate program that does not involve fracturing for Wombat 3.

## PROPOSED OPERATIONS

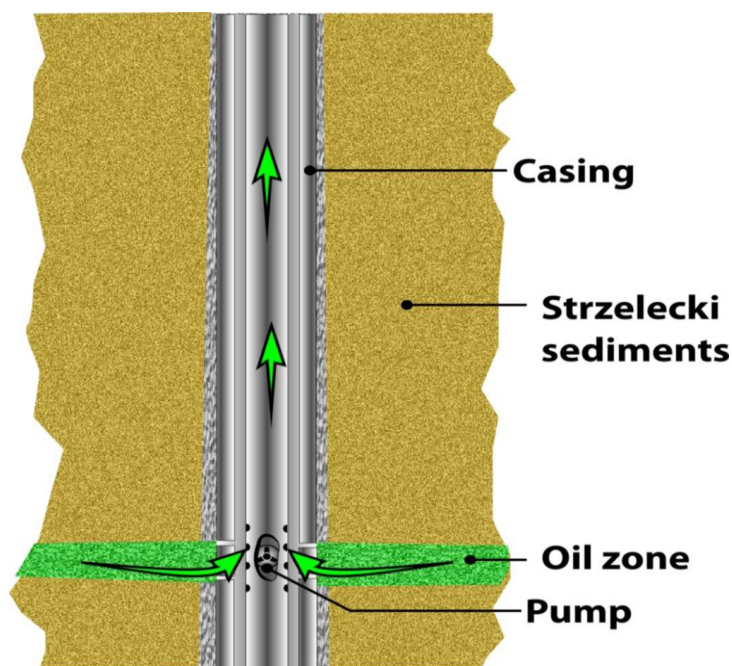
### Wombat 3: Flow testing of Strzelecki oil

Lakes Oil believes that the live oil (~10 barrels) previously encountered in Wombat 3 has migrated along natural fractures from oil bearing source rocks located significantly below the total depth of the well. Lakes have never fully tested this oil flow in isolation.

Lakes Oil plans to isolate the oil bearing zone in Wombat 3 in order to flow test the oil that was previously identified (2103-2105 m). It is proposed to seal off the gas/water producing zone at the top of the Strzelecki Group and run a pumping completion into the hole to test the productivity of the lower oil/gas zone.

The Company plans to install a downhole pump over the interval (2103-2105m), which will hopefully result in a substantially higher rate than achieved previously (refer to diagram below). The well will be tested for a period of at least one month to determine the productivity from the oil zone. The gas will be produced up the annulus and flared when necessary during testing. Depending on results, permanent surface equipment will be installed or the well shut-in.

It is planned to carry out this program as soon as possible, once all necessary approvals have been granted.



**Wombat -3 Casing and Pump Diagram**



## Onshore Gippsland Basin cont.

### PRL 3

*(Lakes Oil Group, Operator: 100% interest)*

No further operational activities have taken place in this permit. The Company is negotiating access to chosen drill hole sites. Once an access agreement is reached, the Company intends to drill two shallow holes in the vicinity of the old oil shaft, subject to approvals and funding.

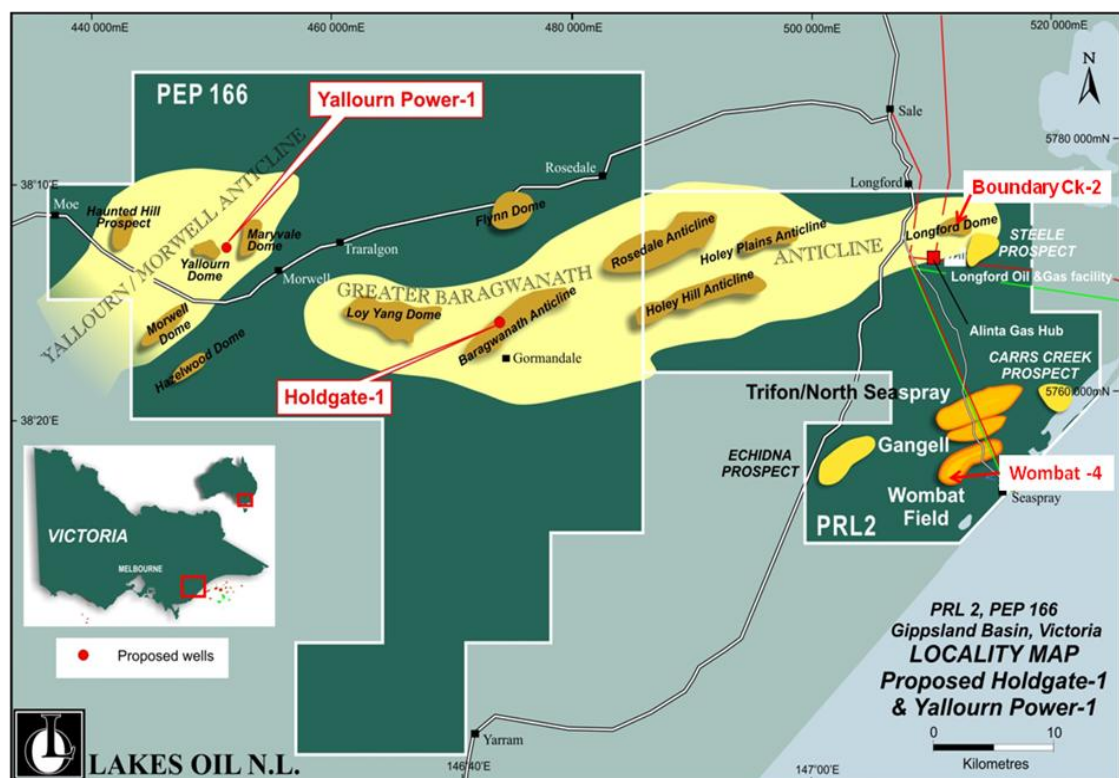
### PEP 166

*(Lakes Oil Group, Operator 75% interest)  
(Armour Energy Ltd (Armour) 25% interest)*

Armour can earn up to a 51% interest in the Permit as follows:

- 1) *drilling Holdgate 1 by spending \$4.25 million (which has now been completed and an interest of 25% earned) and;*
- 2) *in the following 12 months, Armour may expend a further \$4.75 million to drill an additional open hole well complete with any necessary frac stimulation if required.*

*If Armour does not proceed with Phase 2 its interest will be capped at 25%.*



Map of PEP 166 and PRL 2 showing the location of Holdgate 1 and Yallourn Power 1. Note that the Greater Baragwanath Anticline (shown in yellow shading) extends across both PRL 2 and PEP 166.

## **HOLDGATE 1 EVALUATION**

Holdgate 1 was drilled in mid-2012 with two targets; the primary objective was the Strzelecki Group. Preliminary results and conclusions were detailed in the last quarterly report.

A final log evaluation of Holdgate 1 has now been completed in the USA. It was calibrated with all the core analysis results from the well and now provides better constraints to the modelling of the potential hydrocarbon zones and their potential production forecasts.

This well is a tight gas discovery based on the presence of continuous gas in the Strzelecki Group and the identification of several tight gas zones from final log evaluation by independent U.S. based tight gas specialists. The U.S. expert considers that comparison of the Holdgate 1 analysis is favourable to tight sand plays in the Jonah Field or on the Pinedale Anticline in the USA.

However, confirmation of this will still require fracture stimulation at a later stage.

The Company is continuing to evaluate all data collected from this well.

## **DRILLING OPERATIONS**

### **Yallourn Power 1 corehole:**

Yallourn Power is being drilled as a joint venture well between Lakes Oil and Armour Energy on a 75% : 25% basis. The well site is located approximately 2km to the north of the township of

Morwell in the Latrobe Valley. The well is being drilled as a stratigraphic corehole between two Tertiary highs on the northern side of the Morwell Fault.

The well was spudded on the 19th December 2012 with 16" hole drilled down to a depth of 26 metres RT where the 14" surface conductor was run and cemented in place. The well and site were secured over the holiday period with the crew returning to the site on the 7th January 2013.

On 18<sup>th</sup> January 2013, the depth was 166 metres RT.

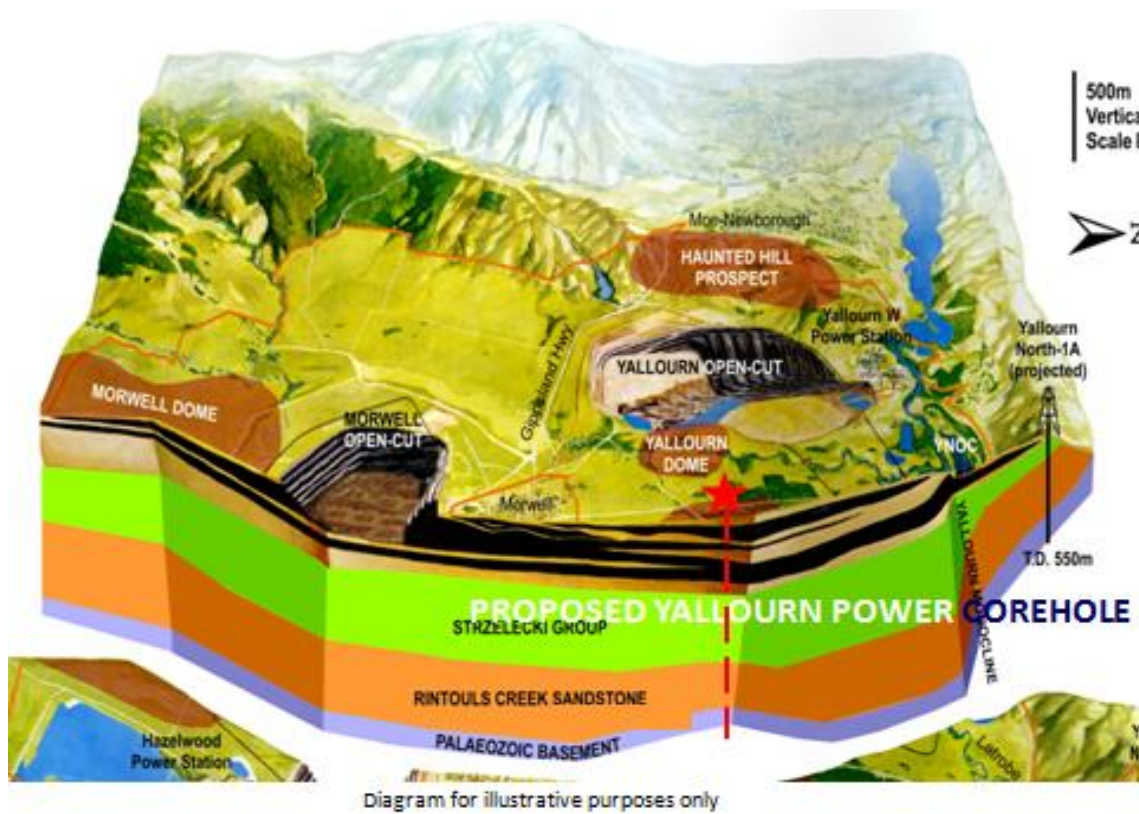
Once the surface casing has been run and cemented in place, the top hole rig will move offsite to allow the coring rig to be moved onto the site to commence HQ coring through the Strzelecki Group and into the main objective of the well, the underlying Tyers Subgroup, which contained the oil prone carbonaceous sequence encountered in the Yallourn North-1 corehole drilled in 2011.

Coring will commence once the top of the Strzelecki Group has been reached at approximately 450 metres RT.

The prognosed total depth for the well is 1200m, unless basement is intersected earlier.

The well is expected to take about 40 days to drill.

Onshore Gippsland Basin cont.  
PEP 166 cont.  
Yallourn Power 1 cont.



Yallourn Power corehole location on diagrammatic cross- section



Onshore Gippsland Basin cont.  
PEP 166 cont.  
Yallourn Power 1 cont.



**Close up view of Yallourn Power 1 top hole rig (Drilltec Bournedrill TD 2500)**



**Yallourn Power 1 with the top hole rig on site**

## ONSHORE OTWAY BASIN VICTORIA

### PEP 163

*(Lakes Oil Group, Operator: 100% interest)*

#### **Geological and Geophysical Studies**

The main focus for exploration in PEP 163 has been extended into the southwestern part of the permit where several deep half - grabens have been identified from seismic interpretation and MT surveys where the combined Eumeralla-Crayfish Group thicknesses would constitute effective areas of 'kitchen' rocks that may charge the adjacent structures, and where deep geothermal prospects would occur in better porosity and permeability areas of the Pretty Hill Sandstone. It is considered that the acreage contains Early Cretaceous Eumeralla Austral 2 Petroleum System that forms the source for the gas in the onshore Otway Basin and also would provide a potential tight reservoir in these areas. The Early Cretaceous potential of the permit is underexplored.

Geological and geophysical studies have identified prospective leads and prospects in the north east and south west of the permit that could form the basis for a deep petroleum/geothermal exploration well to be drilled inland and west of Anglesea, as a joint program between Mirboo Ridge/Lakes Oil NL and Greener Earth Energy Ltd.

### PEP 169

*(Lakes Oil Group, 49% interest)*

*(Armour Energy Ltd – 51%, Operator)*

Armour Energy Ltd earned a 51% interest in the Permit by funding the drilling and completion of Moreys 1.

#### **PEP 169: MOREYS 1 EVALUATION**

The joint venture with Armour Energy Ltd drilled Moreys 1 well in the second quarter of 2012.

The preliminary results and conclusions from the well were outlined in previous quarterly reports.

A final log evaluation of the well has now been completed in the USA which indicates that Moreys 1 is a tight gas and condensate discovery well based log evaluation, the presence of tight gas during drilling and recovery of gas and condensate during drill stem testing in the Eumeralla Formation. The final log evaluation by US based tight gas specialists has identified several tight gas zones in the Eumeralla Formation.

However, confirmation of this will require fracture stimulation at a later stage.

The Company is continuing to assess the results of all logging and test results conducted and re-evaluate the seismic data.



## PROPOSED DRILLING OPERATIONS

### Proposed Otway 1 Exploration Well

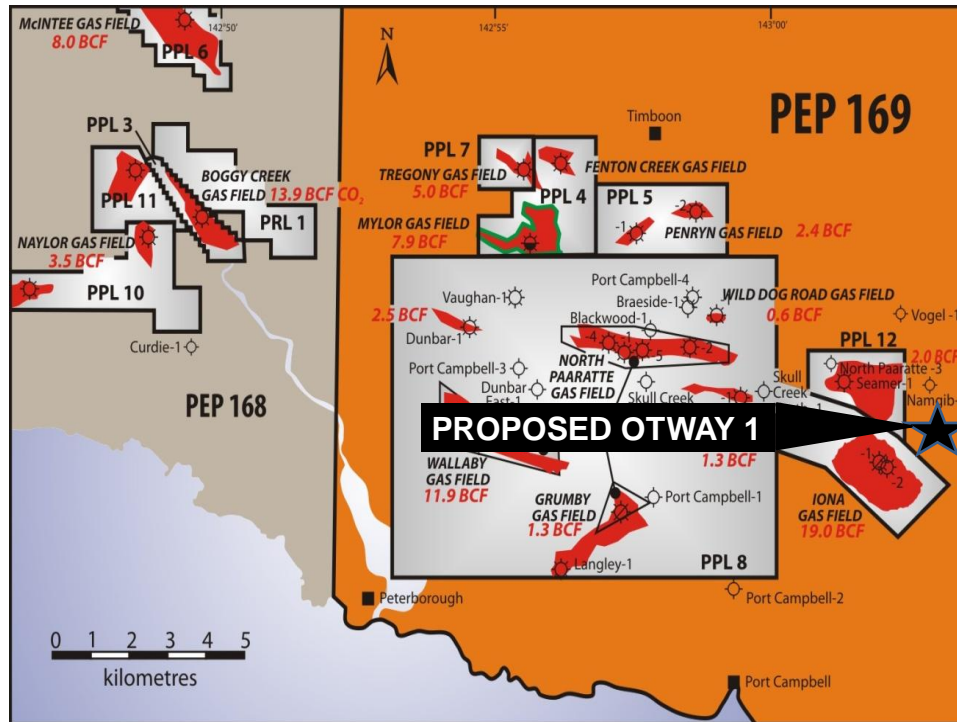
Following the successful drilling of Moreys 1 in 2012, which recovered gas and condensate from the Eumeralla Formation, the joint venture with Armour is planning to drill Otway 1 in PEP 169. It is estimated to be drilled in the first quarter of 2013, pending rig availability, approvals and funding. Estimated total depth is 1500 metres.

This well will be located adjacent to and up-dip from the Iona Gas Field (see map) targeting three objectives in a tilted fault block with closures at three potential levels. The targets are: Pebble Point Formation, Waarre 'C' Formation and Eumeralla Formation (see seismic cross section).

The 3D seismic data indicates that there is an amplitude anomaly (bright spot) present at the Pebble Point and Eumeralla horizons, which could indicate oil or gas.

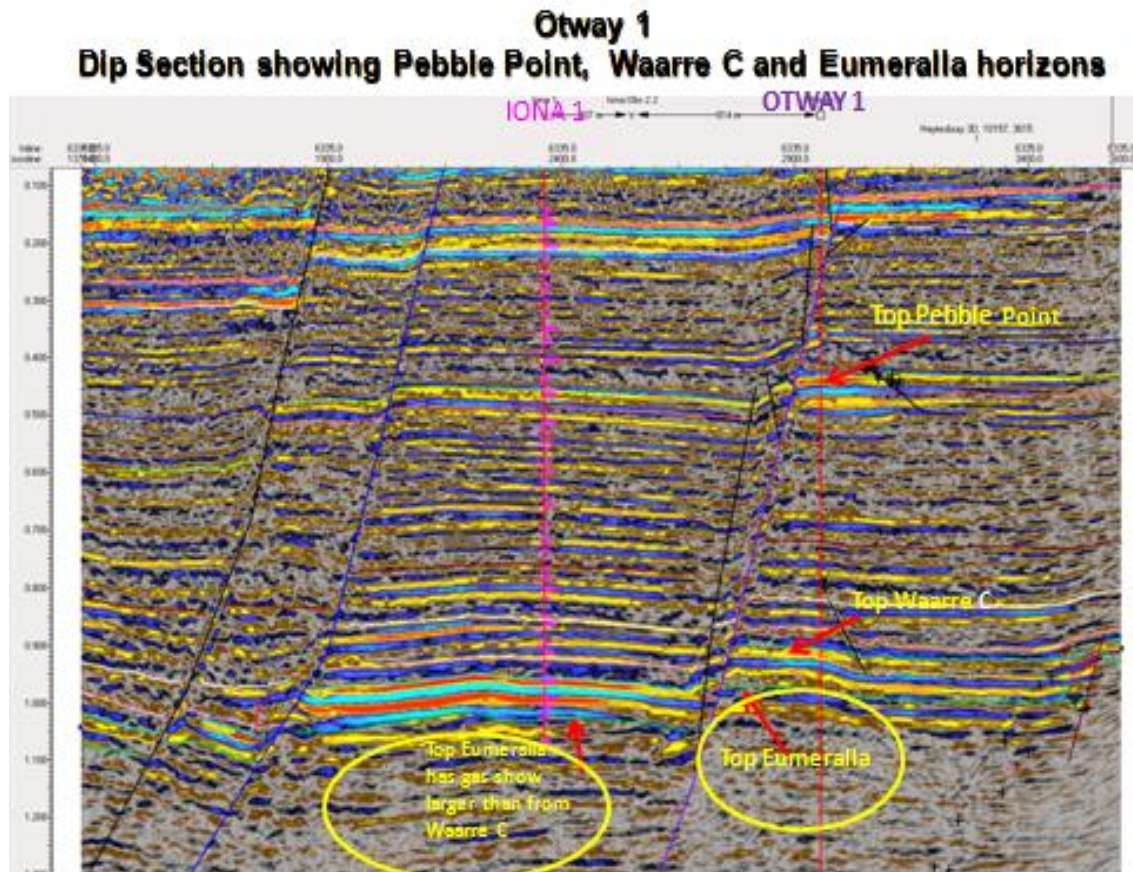


Onshore Otway Basin cont.  
PEP 169 cont.



Location of proposed Otway 1 well adjacent to the Iona Gas Facility

The Otway Prospect can be correlated to the Iona Field and mapped from 3D seismic data to contain the Waarre 'C' Formation, the producing reservoir in the Iona Field. Note that because of the proximal location to the Iona Gas Facility, the flow of gas may not need to be large in order to be commercial.



## PEP 169 Regional Studies

Other drillable Waarre and Eumeralla prospects which are being considered for follow-up drilling have been mapped in the southern part of the permit.

In addition to the southern targets, several other targets across the central and northern permit have been mapped in the Tertiary Pebble Point Formation and Early Cretaceous Eumeralla Formation which occur at relatively shallow depths.

Detailed investigations into the potential of Eumeralla and underlying Crayfish Group tight gas plays are also currently being assessed.

## EAGLE OIL DEVELOPMENT PROJECT, CALIFORNIA

Eagle Prospect - Onshore, California, U.S.A.  
(Lakes Oil Group: 15% working interest; Operator: Strata-X, Inc.)

### Proposed Shannon 1

This permit contains the Mary Bellochi 1 well drilled in 1986 by Lakes Oil and its joint venture partners. The well flowed oil to surface for several weeks before withering out from, what was believed at the time to be, a mechanical problem rather than oil ceasing to be present. The permit at the time was operated by U.S company Royal Resources, and is now operated by Strata-X, Inc.

The proposed Shannon 1 well is to be located close to the Mary Bellochi accumulation. The joint venture group proposes to drill Shannon1 vertically as a near-offset appraisal of the P90 reserves case of 1.2 MMB(oil) and 3.8 BCF(gas). Shannon 1 is to be located close to the Mary Bellochi accumulation.

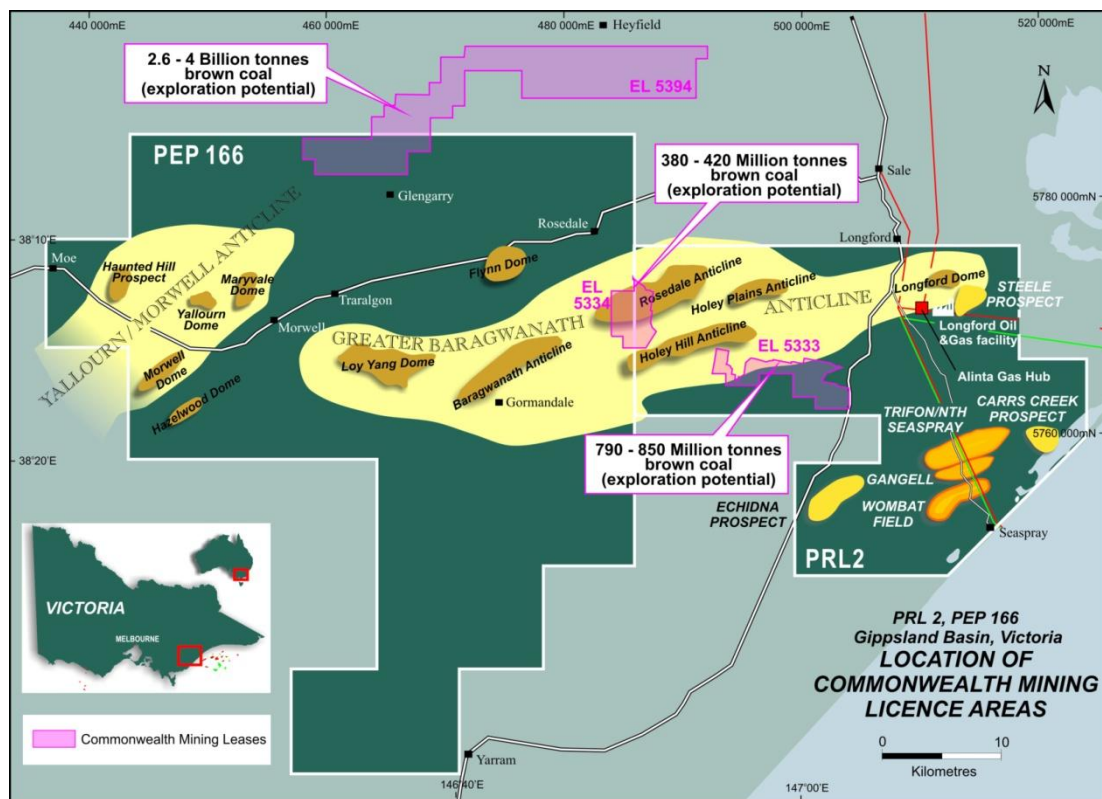
Drilling is planned, but not confirmed, pending rig availability.



## VICTORIAN COAL EXPLORATION LEASES

Commonwealth Mining Pty Ltd: a wholly owned subsidiary of Lakes Oil N.L.

Commonwealth Mining has acquired 3 coal exploration leases in the Gippsland Basin. The areas are : EL 5333, EL 5334 and EL 5394. Refer to the locality map below.



**Location map of Commonwealth Mining's EL's, Gippsland Basin**

No further activities have taken place in this quarter.

These areas have been acquired to investigate the resource potential of economically recoverable brown coal resources.

The three leases have JORC exploration potential coal tonnage estimates calculated by independent consultants.

*I. B. Campbell.*

Signed on behalf of Lakes Oil N.L.

**Ingrid Campbell**  
Chief Geologist