



A.C.N. 004 247 214

**Lakes Oil N.L.**

**ASX  
Announcement  
And Media  
Release**

**25 November 2013**

**www.lakesoil.com.au**

# **Lakes Oil NL**

## **Annual General Meeting 2013**

### **Chairman's Address to Shareholders**

#### **Chairman's Address to Shareholders**

Please find attached the Chairman's address to Shareholders to be presented at today's Annual General Meeting.

**Lakes Oil N.L.**

**ROBERT J. ANNELLS**

*Chairman*

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**Lakes Oil N.L.**  
**'an unconventional oil & gas company'**  
**www.lakesoil.com.au**



**Lakes Oil N.L.  
Annual General Meeting  
25 November 2013**





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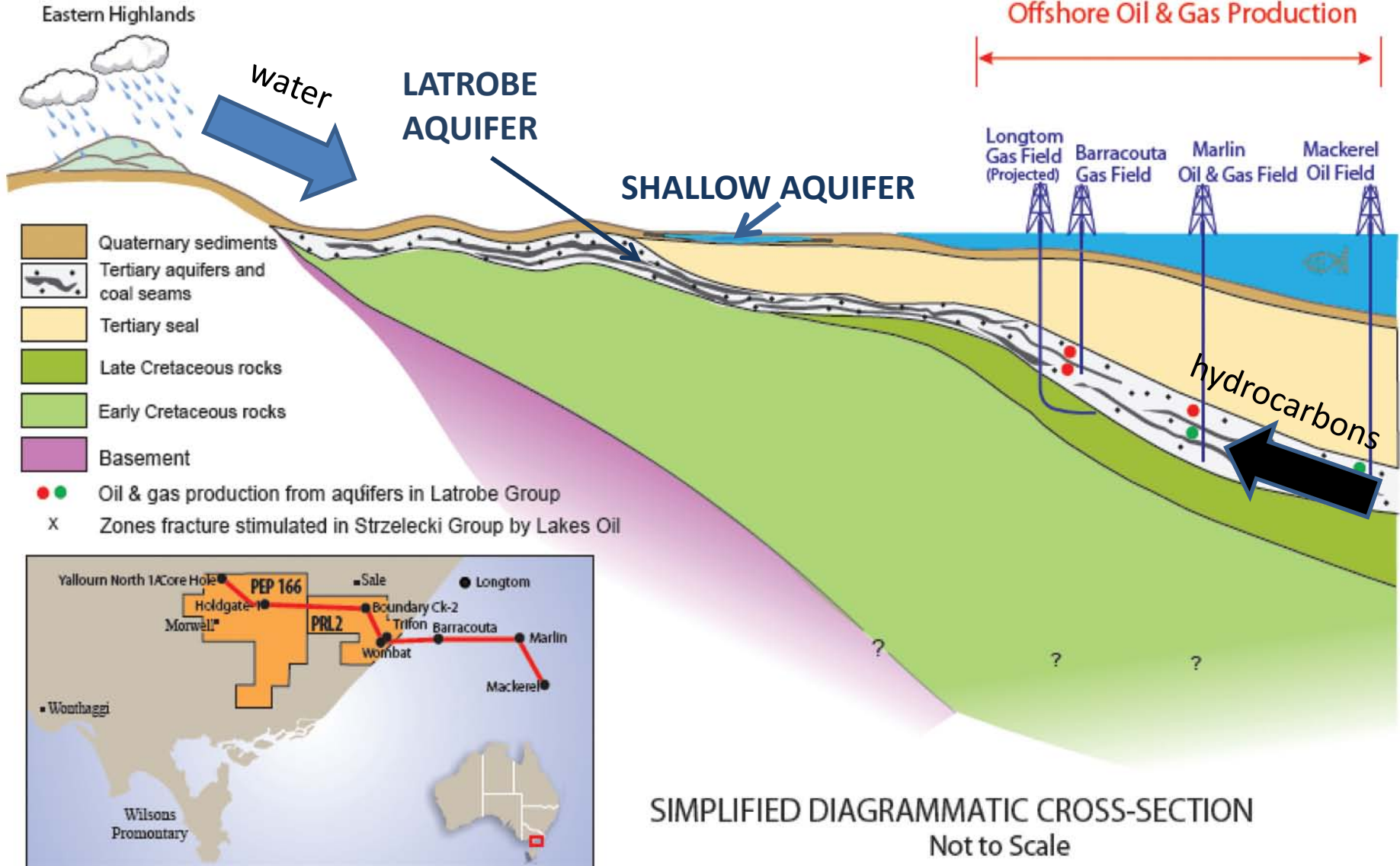
The forward looking statements included in this presentation involve subjective judgement and analysis and are subject to significant uncertainties, risks and contingencies, many of which are outside the control of, or are unknown to, the Company, including to significant regulatory, business, competitive and economic uncertainties and risks. Actual future events may vary materially from the forward looking statements and the assumption on which those statements are based.





# The Environment



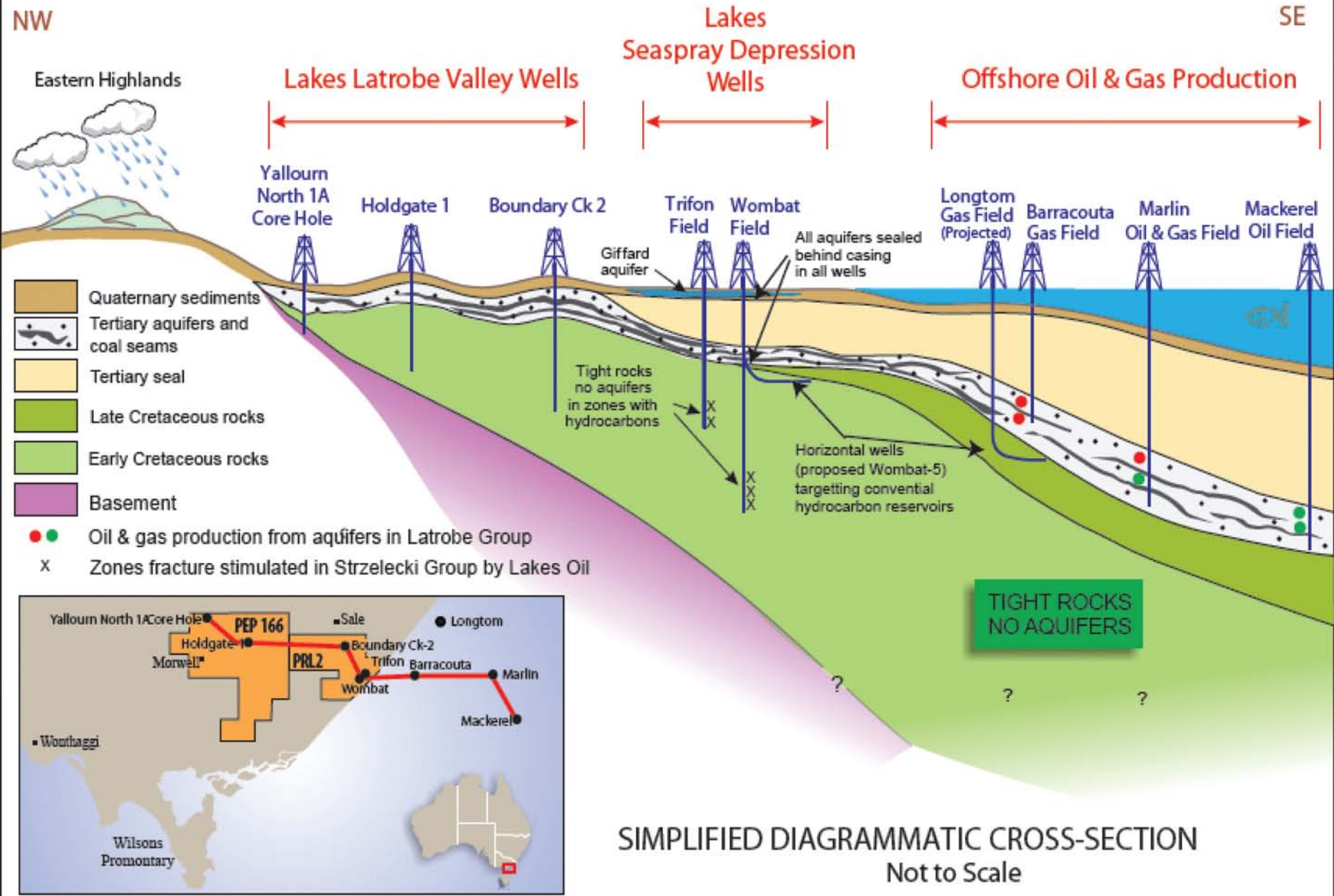




LAKES OIL N.L.

NW

SE





# Natural Gas Occurrence Mud Island in Gippsland Lakes

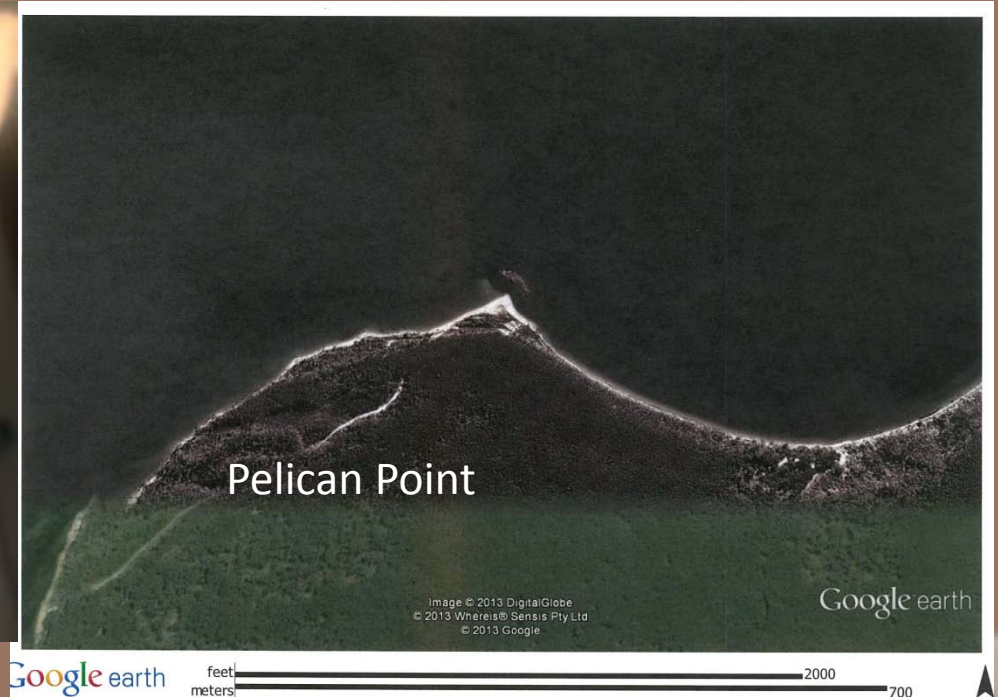




# Natural Mud Island in Lake Victoria



**2 September 2013**  
Aerial photo taken from light aircraft showing new mud island development



2009 Satellite image; no mud island offshore

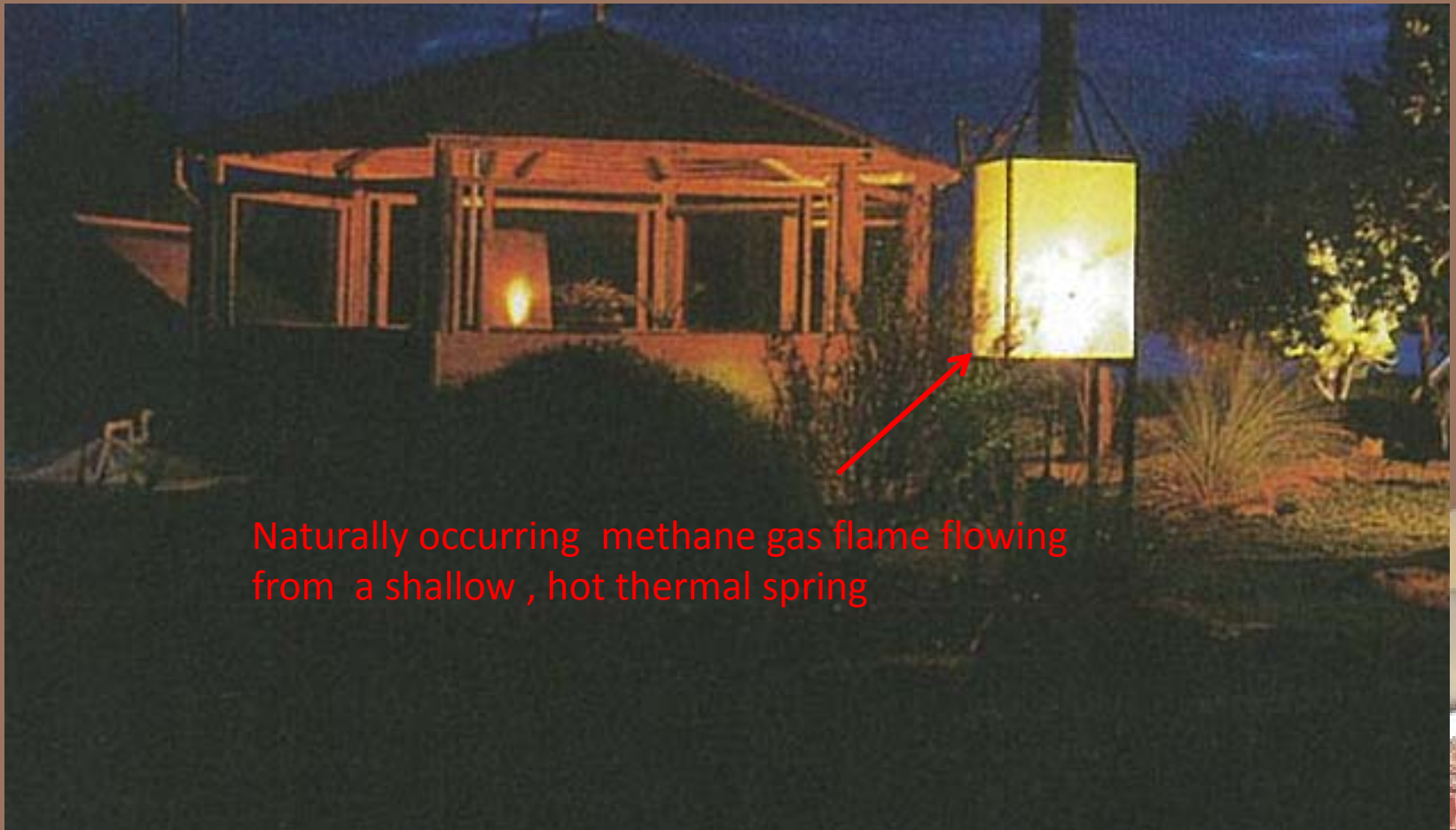




# Natural Gas and Water Occurring Together

Jones Bay, south of Bairnsdale

*42 degrees C hot thermal springs with natural methane*



Naturally occurring methane gas flame flowing from a shallow, hot thermal spring



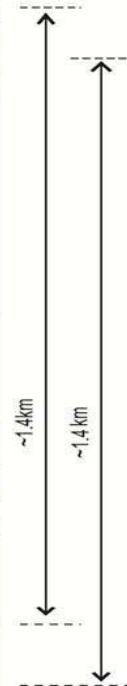
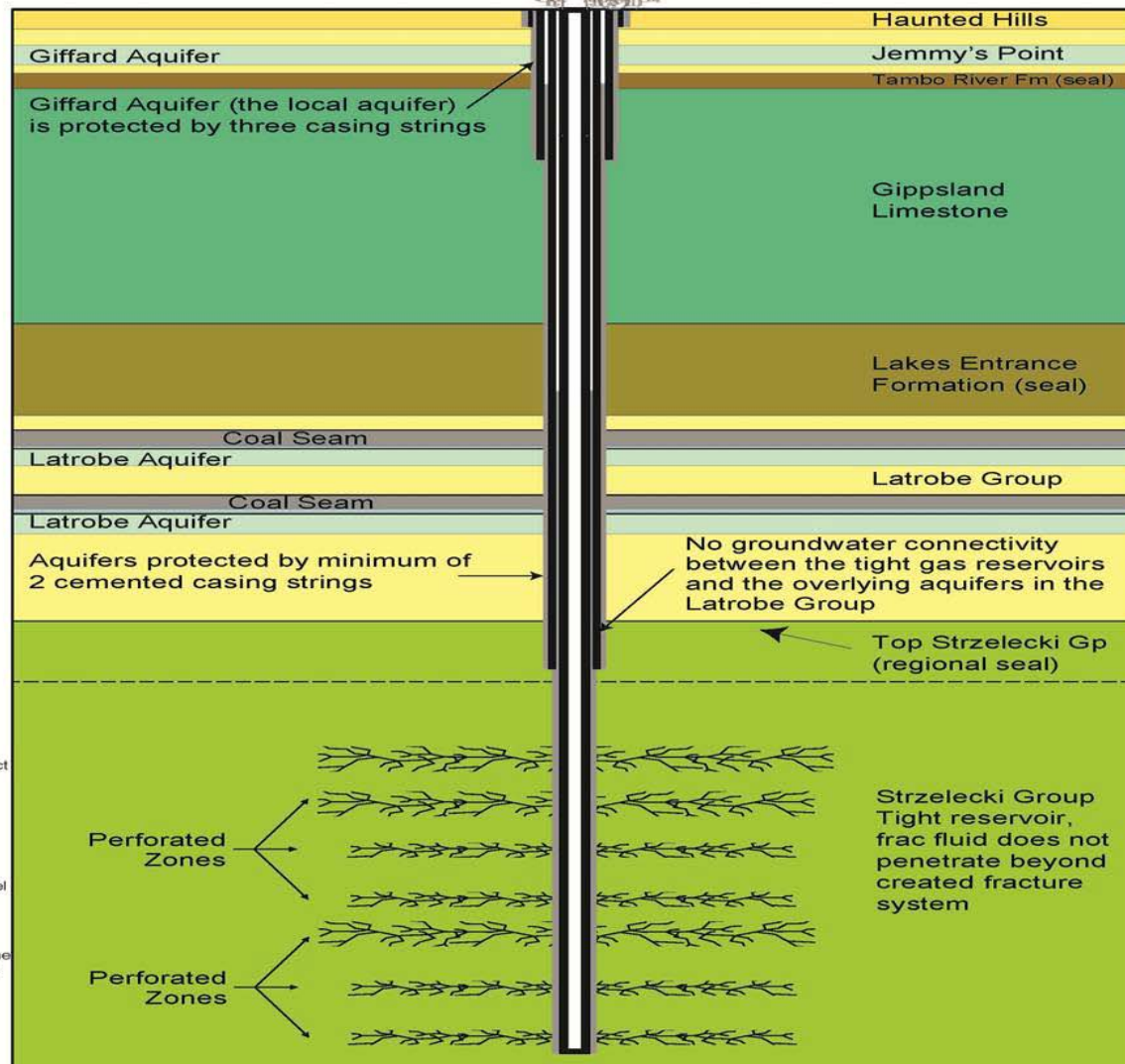
# Key concerns

- Protection of freshwater aquifers
- That induced fractures could extend into aquifer zone



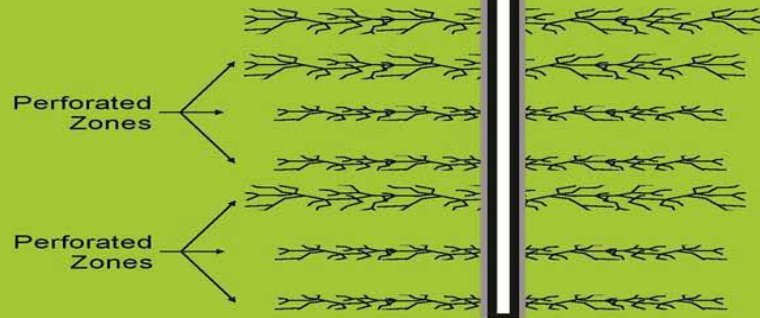


Well Head  
(3 safety valves)



**Notes:**  
The well is cased to total depth with 2 production strings across the top of the Strzelecki Group and Latrobe Group Aquifers. Three casing strings protect the Giffard Aquifer.

- Legend**
- Haunted Hills Gravel
  - Jemmy's Point Fm
  - Aquifer
  - Tambo River Fm
  - Gippsland Limestone
  - Lakes Entrance Fm
  - Coal Seam
  - Latrobe Group
  - Strzelecki Group



Strzelecki Group  
Tight reservoir,  
frac fluid does not  
penetrate beyond  
created fracture  
system





# Benefits to Landowners

- Extensive research in USA and Queensland has shown that a vast majority of landowners welcome explorers onto their properties (see *Peter Reith's Gas Market Task Force Report ,2013*)
- It has been proven in the USA and Queensland that what is good for the explorers is good for the landowners (see *Peter Reith's Gas Market Task Force Report ,2013*)
- **FACT: there have been no detrimental effects to the environment from Lakes Oil's past activities in Gippsland**





# Water Usage & Aquifer Protection In relation to Hydraulic Fracturing

- Water to be used will be sourced from neighbouring bores or trucked in
- Approximately less than 0.5 megalitres used per stimulation
- 99% of fluid pumped is water with the remaining 1% being proppant and benign chemicals used in everyday products
- All water produced to lined pits or tanks
- Water either purified, re-used, evaporated or disposed of at Dutson Downs facility
- Water injected does not come into contact with local aquifers
- Giffard Aquifer is protected by 3 strings of casing and cement





# Water Usage & Aquifer Protection In relation to Hydraulic Fracturing

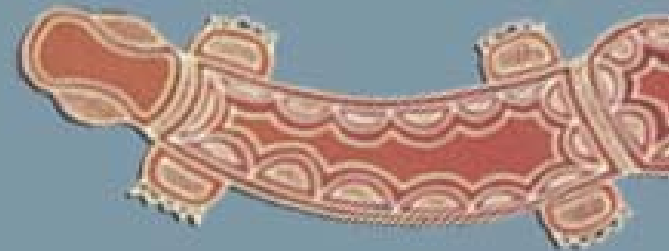
- Zones to be stimulated are some 1000m below aquifers
- Vertical induced fracture height growth generally less than 30m
- 11 stimulation treatments already performed by Lakes across the Wombat and Trifon Fields with **no effect on aquifers.**
- Monitoring of water quality prior to and after stimulation treatments
- All fluids pumped approved by EPA prior to use





# Exploration

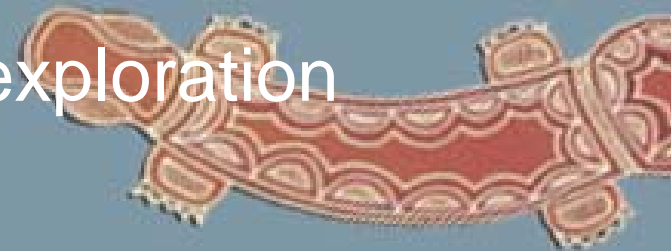
Where to now for  
Lakes Oil?





The State Government announced on  
21 November 2013  
that the ban on hydraulic fracturing  
will be extended until July 2015

- The proposed 2014 programs by Lakes Oil will not involve hydraulic fracturing
- Lakes Oil's activities are subject to the Petroleum Act *not* the Minerals Act which covers CSG
- Lakes Oil is *not involved* in CSG exploration

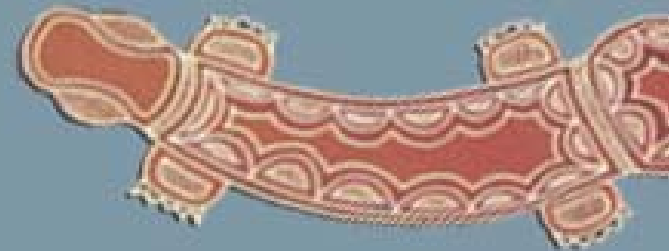






# Exploration

## PEP 169 Otway Basin





# PEP 169 OTWAY BASIN

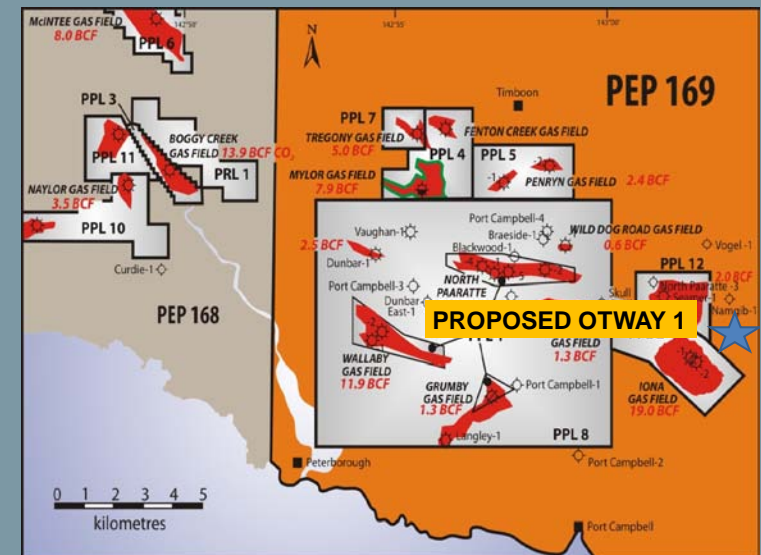
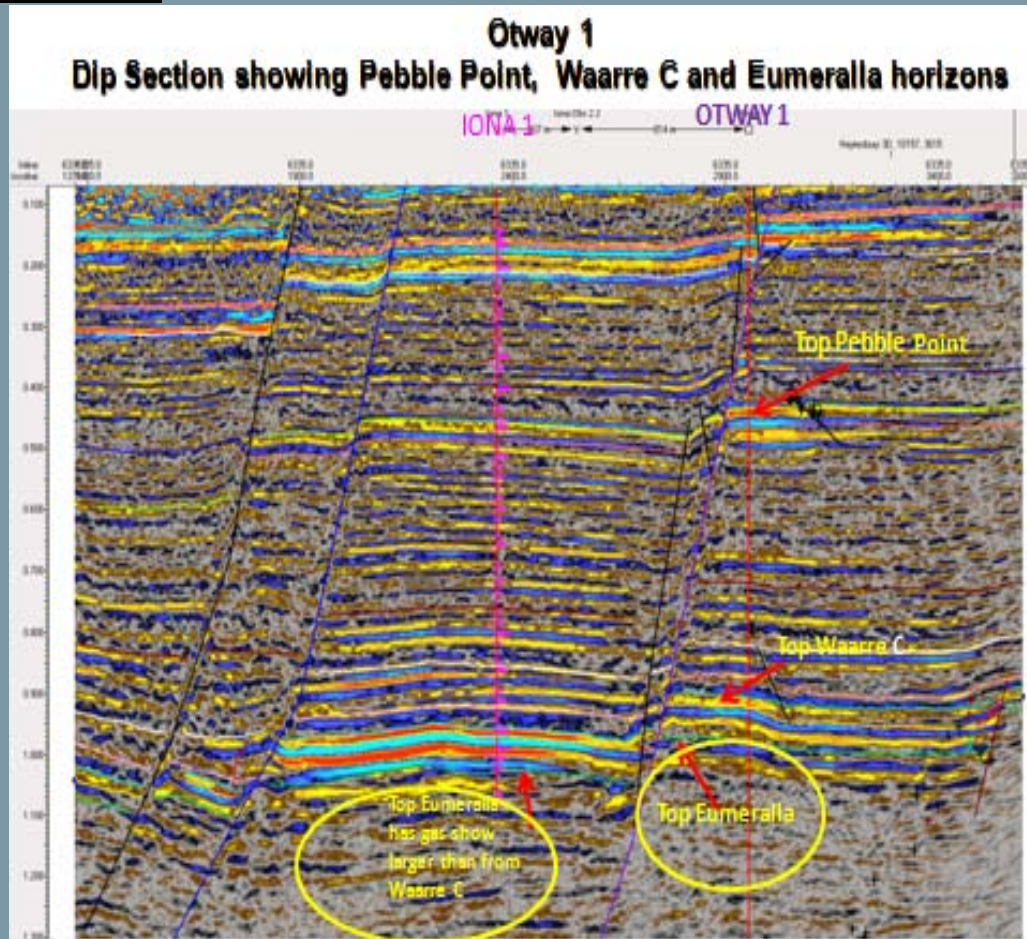
- Proposed Otway 1 conventional well

Proposed Location Otway 1





# PEP 169 Otway Basin

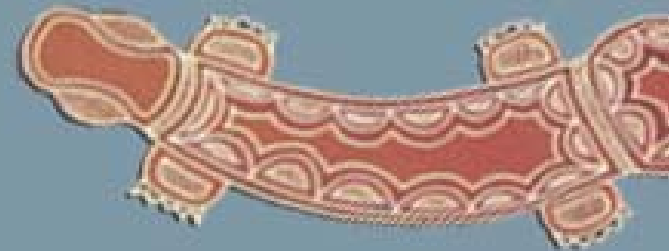


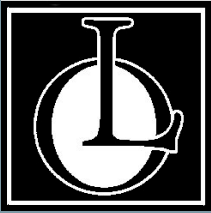
- Proposed Otway 1 will be located adjacent to and up-dip from the Iona Gas Field.
- Three objectives in a tilted fault block with closures at three potential levels.
- The targets are: Pebble Point Formation, Waarre 'C' Formation and Eumeralla Formation.



# Exploration

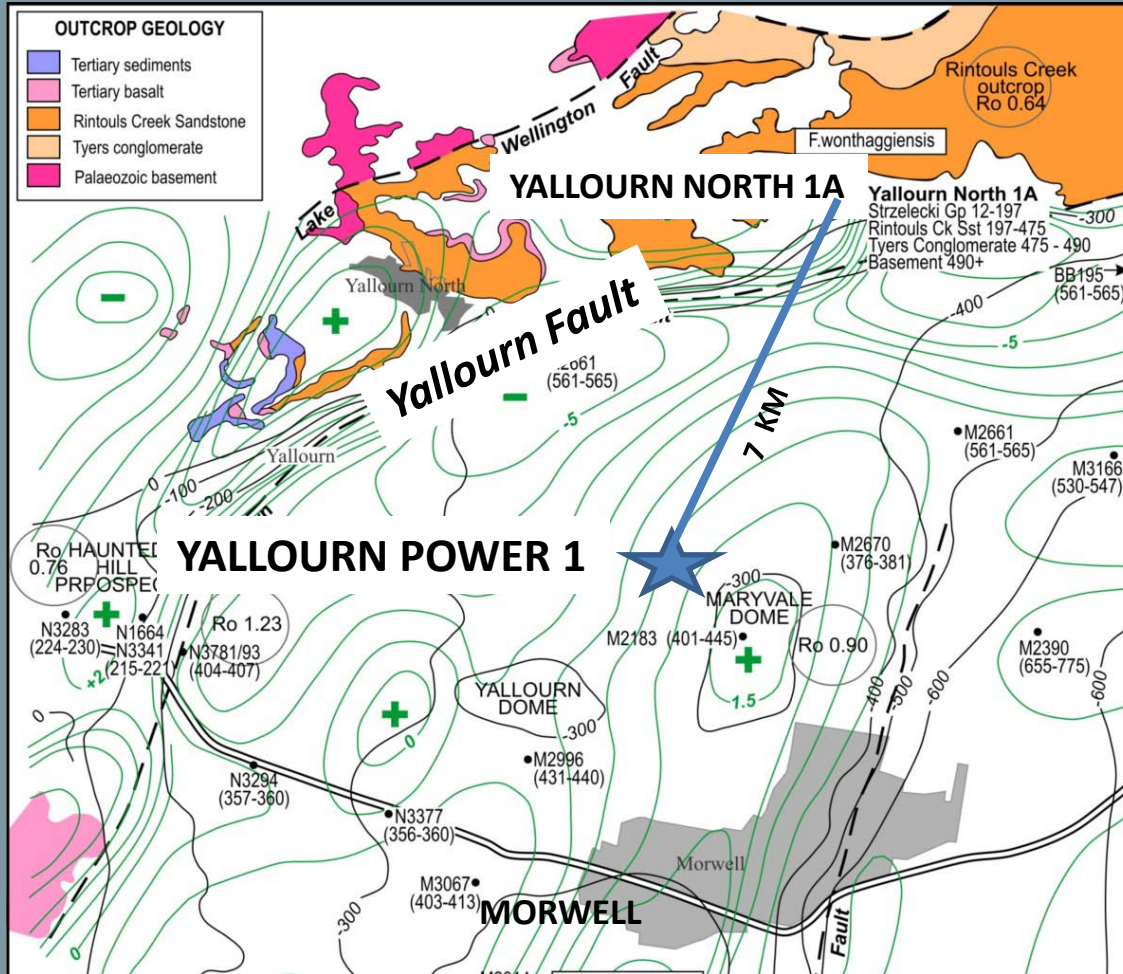
## PEP 166 Gippsland Basin



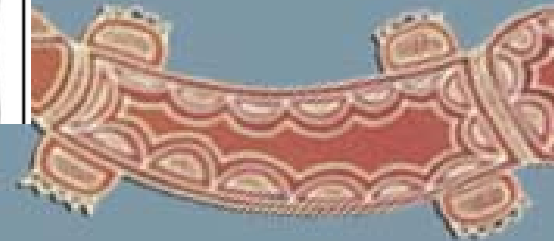


# PEP 166

## Yallourn Power 1 corehole

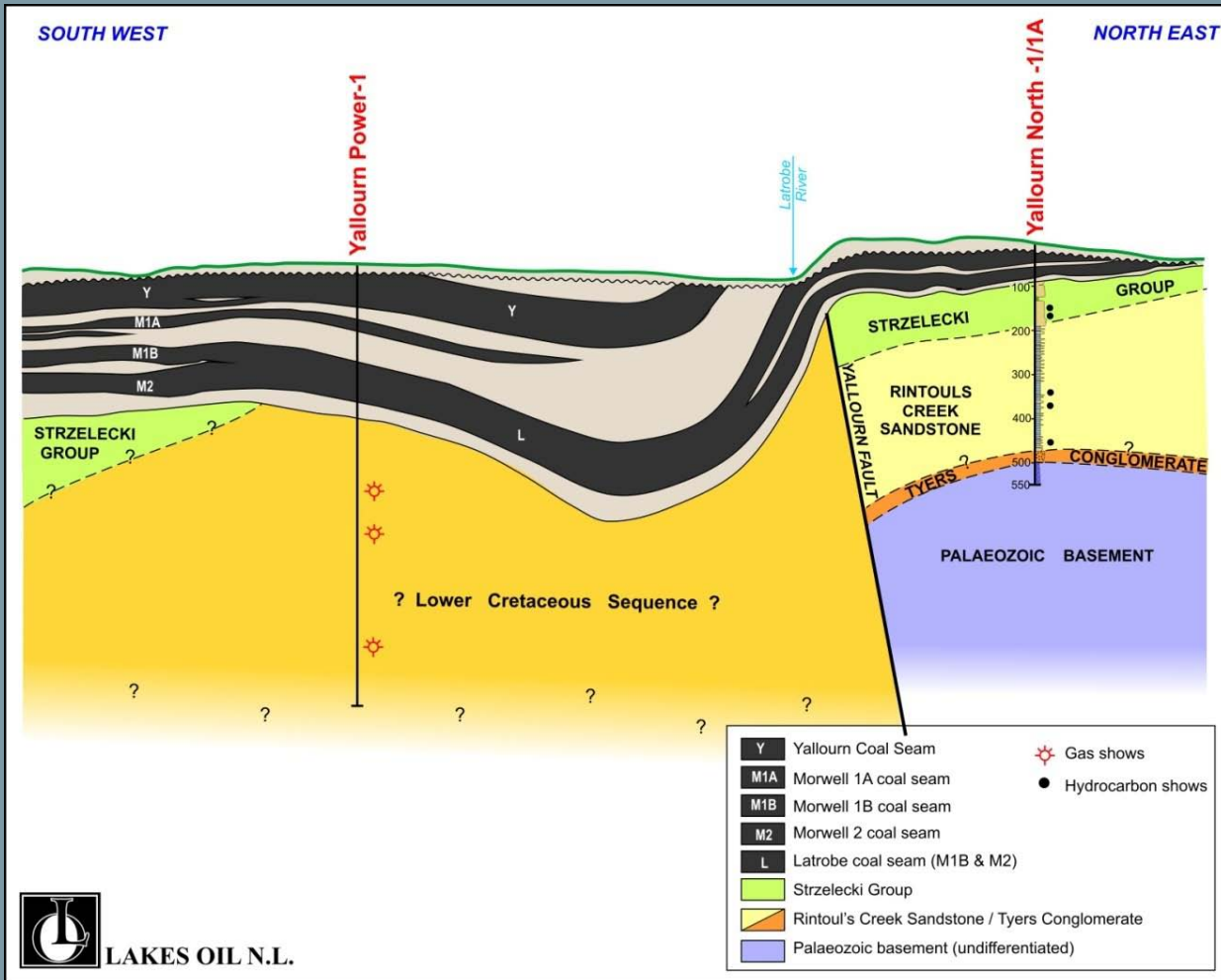


Yallourn Power 1 location on outcrop geology and gravity contour map



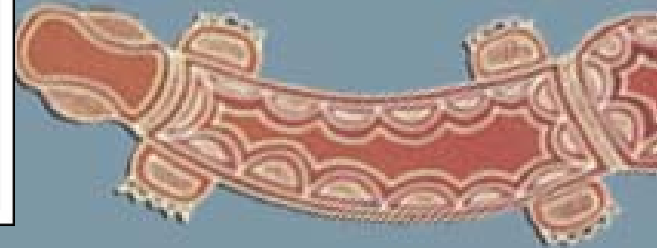
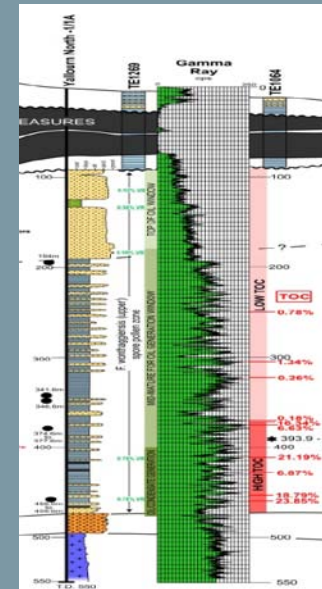
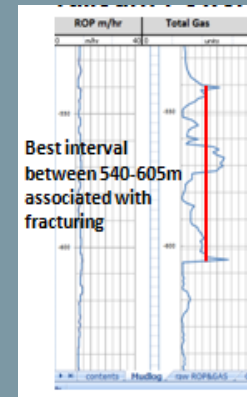


# PEP 166 Schematic Cross Section



YN-1

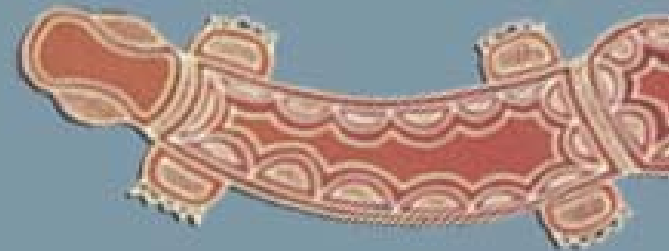
YP-1





# Exploration

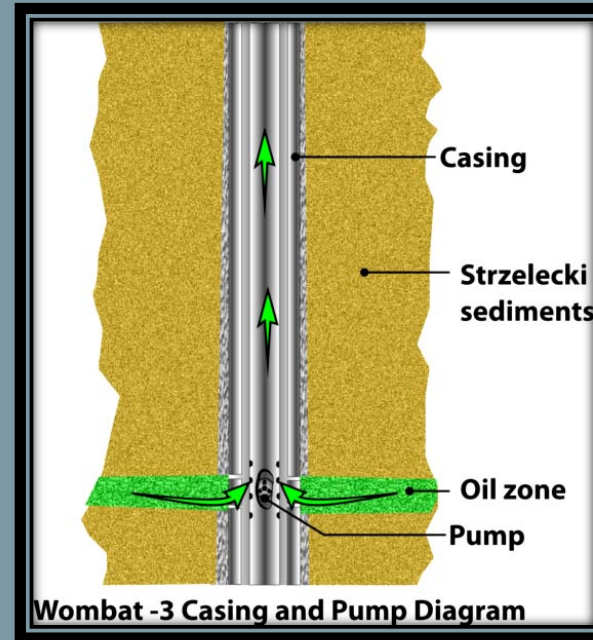
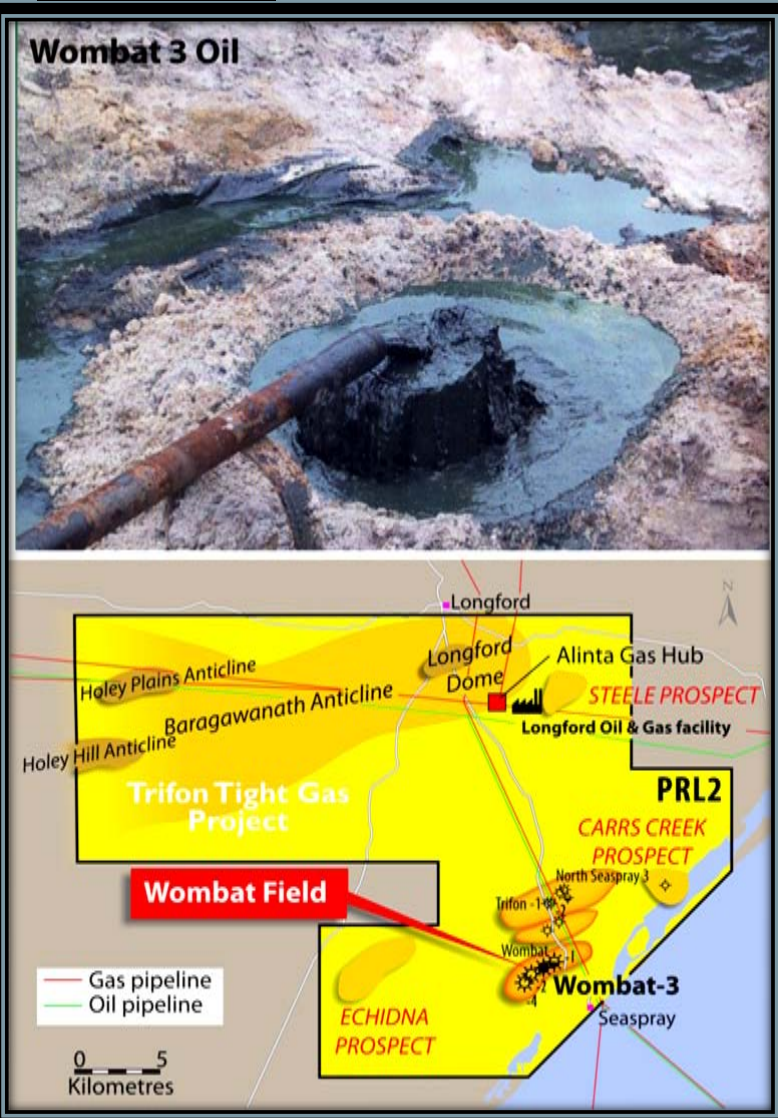
## PRL 2 Gippsland Basin





# PRL 2

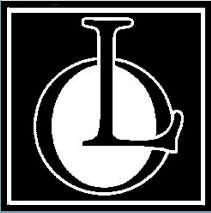
## Proposed Wombat 3 oil zone flow test



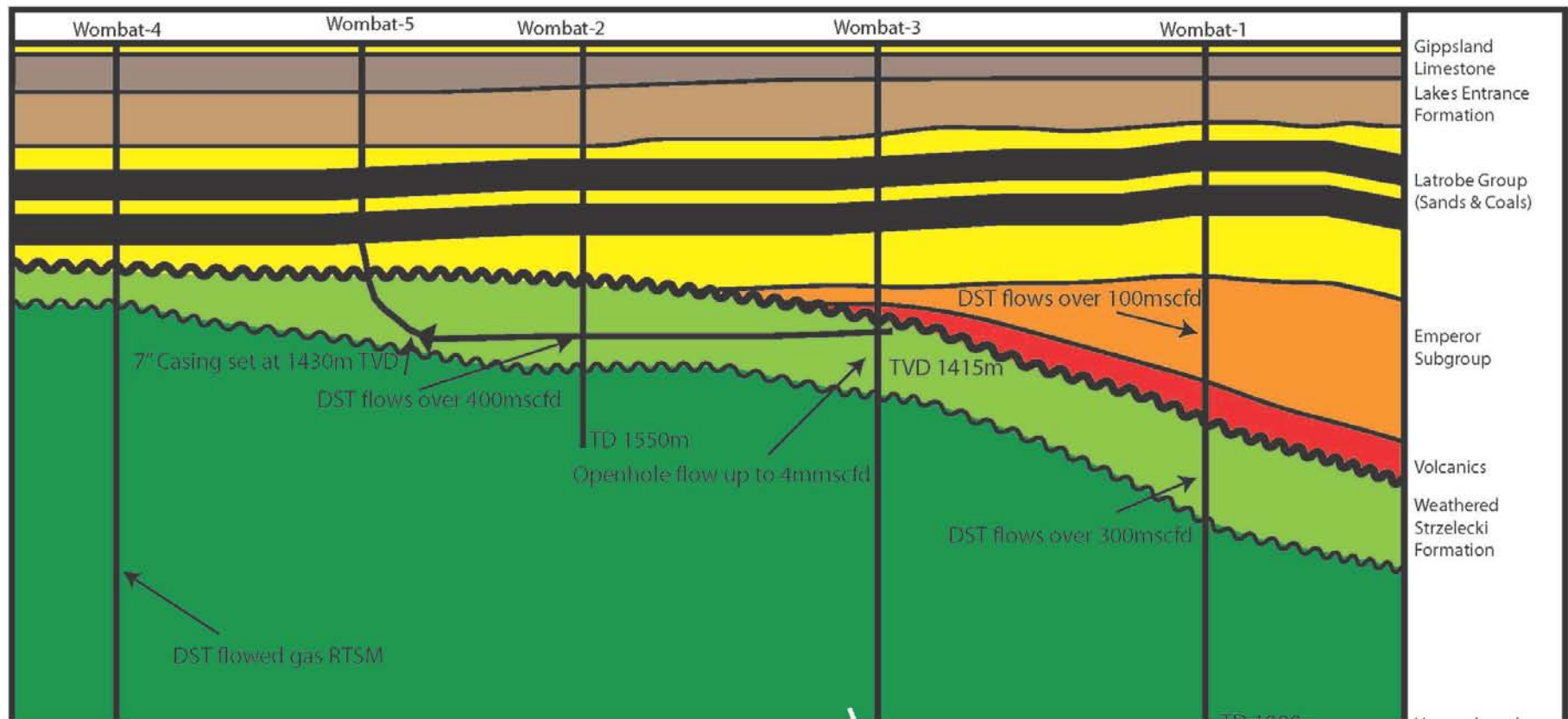
### Lakes plans to isolate the oil bearing zone in Wombat 3

- plan to install a downhole pump over the interval.
- installation of the pump will hopefully result in a substantially higher rate than achieved previously.
- plan to carry out this program as soon as possible subject to all approvals.





# Proposed Wombat 5 conventional horizontal well schematic



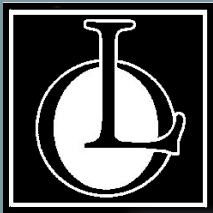
Oil filled fracture @ 2103m  
approx 10bbbls rec

TD 2178m

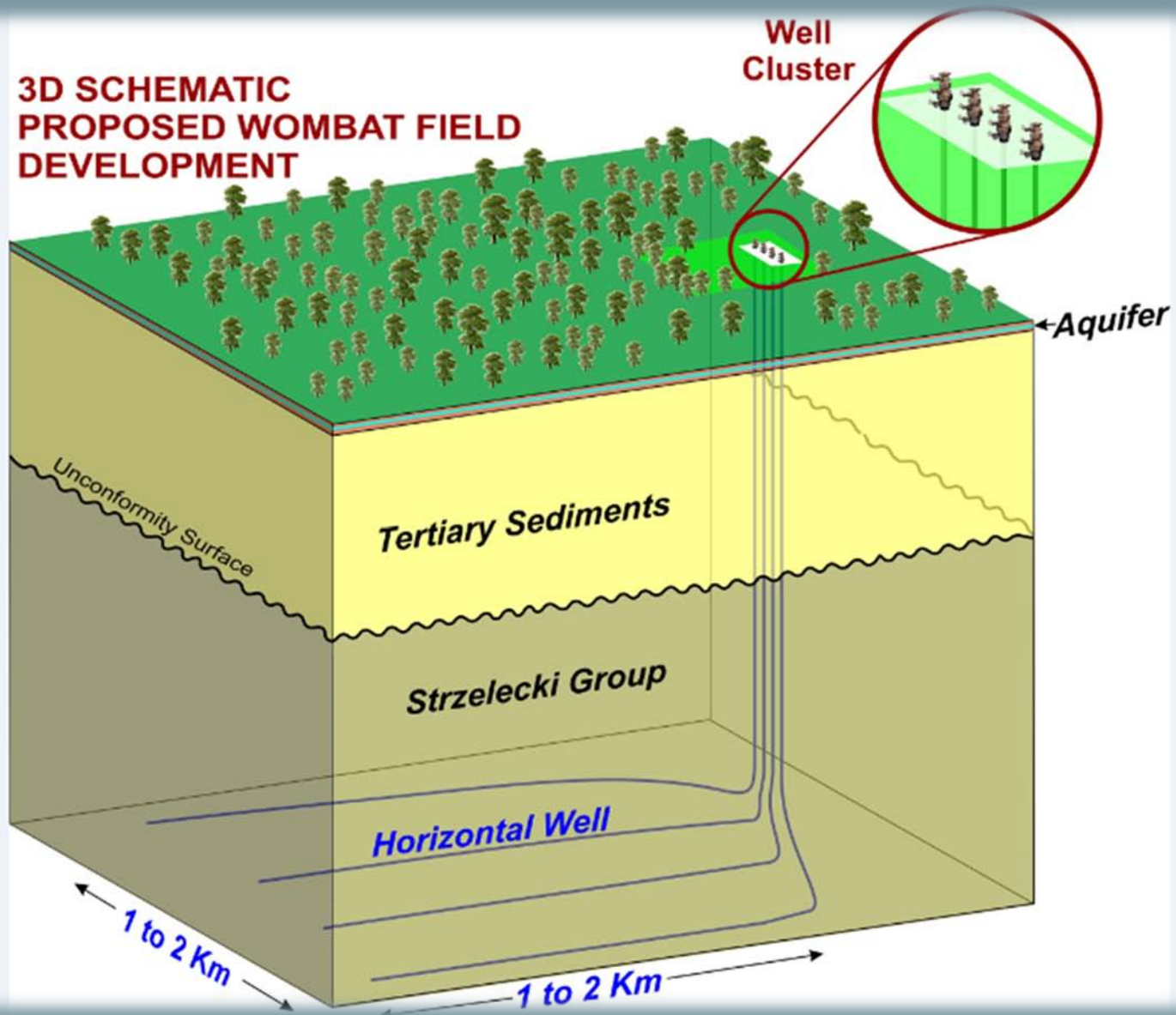
TD 1990m

Unweathered Strzelecki Formation

Weathered Strzelecki  
Unweathered



# Proposed Wombat field development





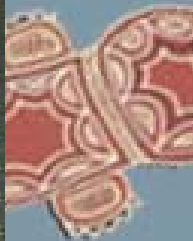
# Wombat 5

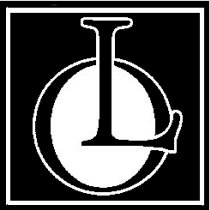
## Similar Lithologies between fields

Wombat-2 core



Longtom-2 core



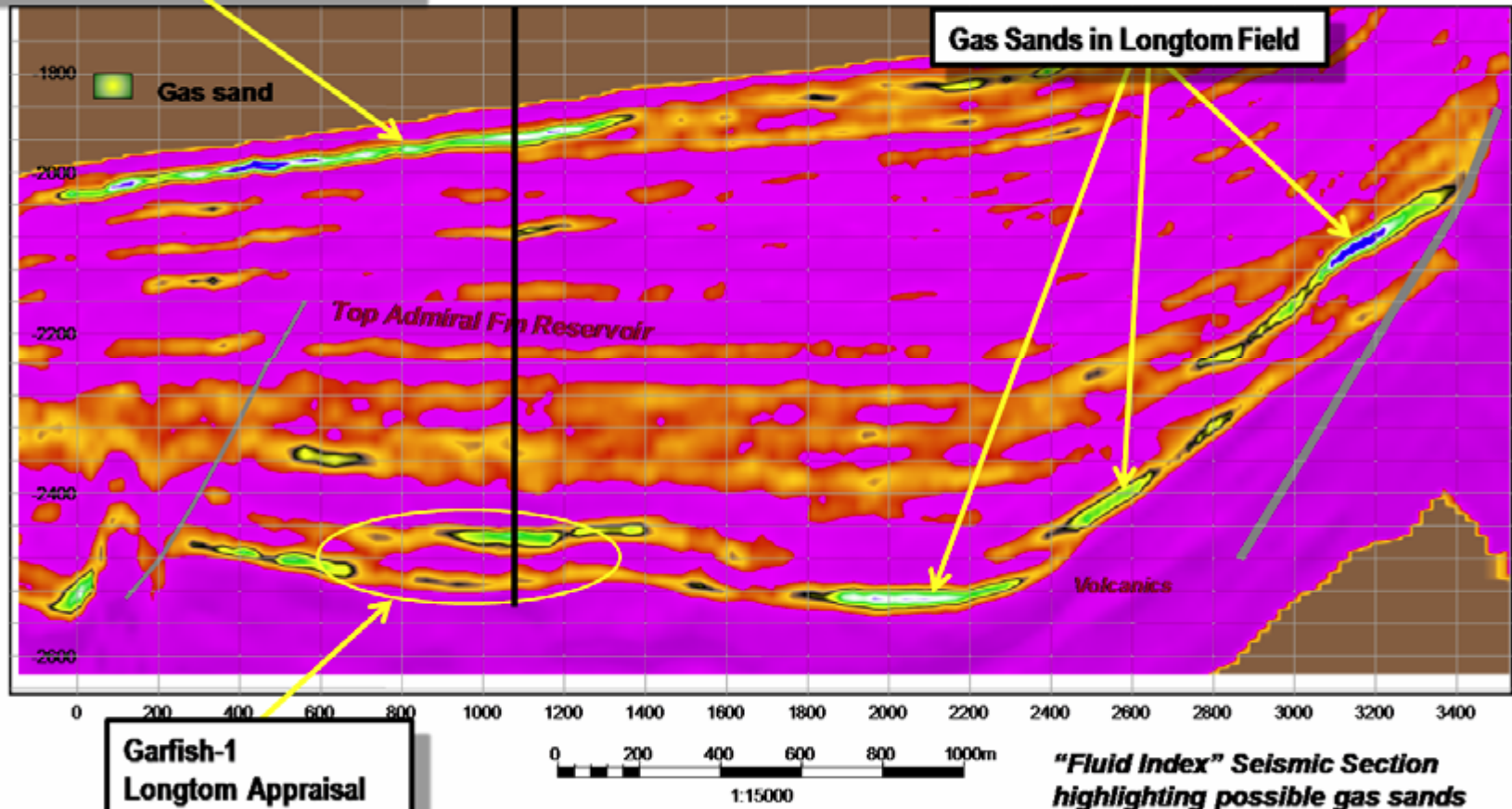


# Proposed Wombat 5

**Garfish-1**  
Exploration target  
180 Bcf : Resource potential

## Longtom-4 Comparison

Garfish-1



**Garfish-1**  
Longtom Appraisal  
Objectives

