



A.C.N. 004 247 214

Lakes Oil N.L.

**ASX
Announcement
and Media Release
8 July 2019**

www.lakesoil.net.au

Registered Office:
100 Albert Road
South Melbourne
Victoria 3205
Ph: +61 3 9629 1566



Lakes Oil N.L. ASX Announcement

Drilling rig secured for Nangwarry-1 Well

Highlights:

- *Easternwell Rig 106 to drill Nangwarry-1 in onshore SA Otway Basin*
- *Well pad lease preparation nearly complete*
- *Nangwarry-1 expected to spud in October/November 2019*

Lakes Oil NL (**Lakes Oil**, ASX: LKO) is pleased to announce that the Company's majority owned subsidiary, Otway Energy Pty Ltd (**Otway**), has secured the Easternwell Group's drilling rig 106 (known as Rig 106) to drill the conventional Nangwarry-1 well in the onshore Otway Basin, South Australia.

Rig 106 is ideally suited for drilling the Nangwarry-1 well. The 1,500 horsepower rig is fully automated and is specifically designed for and capable of drilling to a depth of 5,000 metres.

Rig 106 will be moved to the Nangwarry-1 site after completion of a present assignment in Western Australia. Site preparation works at Nangwarry are well advanced.

It is anticipated drilling of the Nangwarry-1 well will commence in October/November 2019 and will take around 45 days.



Rig 106

The Nangwarry-1 well is being drilled within Petroleum Exploration Licence 155 by Otway as Operator of the Otway Basin Joint Venture (Otway 50%, Vintage Energy Pty Ltd 50%). The well is being partially funded through a \$4.95 million Petroleum Accelerated Exploration (**PACE**) grant from the South Australian Government.

Chris Tonkin, Chairman of Lakes Oil, said "drilling of the Nangwarry-1 well is an important step toward Lakes Oil becoming a commercial producer of gas for the supply-constrained, high-priced southeast Australian gas market. In addition to targeting the historically productive Pretty Hill Sandstone the well will test the Sawpit Sandstone which, at the nearby Hazelgrove-3 well, flowed gas at a tubing-constrained rate of 25 million cubic feet per day. Lakes Oil is excited by the opportunity for a multi-level gas discovery that will enhance the prospectivity not only of the Licence area but also of the company's Victorian exploration acreage, which targets the same geological formations".

"The Nangwarry prospect contains a best estimate gross prospective gas resource of 57 Bcf and Lakes Oil looks forward to developing a new source of gas supply for the benefit of South Australian gas users."

Chris Tonkin

Chairman

Lakes Oil NL

Ph: 0412 110 955

Nangwarry-1 Well

The Nangwarry-1 well is located in the Penola Trough region of the onshore Otway Basin, South Australia, as shown in Figure 1. The well is located within a proven hydrocarbon province and is in proximity of existing infrastructure including the Katnook gas processing plant (approximately 10 kilometres to the southeast) and a substantial network of gas pipelines that connect to local industry and to southeastern Australian gas markets.

Figure 1: Location of Nangwarry-1 Well



The Nangwarry prospect has a best estimate gross prospective resource¹ of 57 Bcf (28.5 Bcf net to Lakes Oil) and gas produced from Nangwarry-1 can be expedited to market given the well's close proximity to infrastructure and the acute gas undersupply problems being experienced, and forecast to continue, in southeastern Australia.

The Nangwarry prospect is a three-way dip fault dependent trap in both the Pretty Hill and Sawpit formations, defined on 3D seismic. The Pretty Hill target is considered analogous to the nearby Beach owned Katnook, Haselgrove and Ladbroke Grove fields, which have produced around 70 PJ of gas since discovery at individual well rates of up to 10 TJ/d. The Sawpit target is a direct analogue to the recent Haselgrove-3 discovery (Beach, 100%) that flowed gas on test at a tubing-constrained rate of 25 million cubic feet per day.

In addition to testing the potential of the Nangwarry Prospect, the Nangwarry-1 well will serve to demonstrate the prospectivity of the Lakes Oil's broader exploration portfolio, notable the Company's Victorian Otway acreage. The Astral 1 petroleum system (essentially the Crayfish Subgroup, including the Pretty Hill and Sawpit Sandstones) extends across much of the onshore Otway Basin, as shown in Figure 2, with the best potential for gas production being in proximity to the green shaded areas of peak hydrocarbon generation. The Company's western Victorian exploration targets the same formations as those to be drilled at Nangwarry.



A.C.N. 004 247 214

Lakes Oil N.L.

ASX

Announcement
and Media Release
8 July 2019

www.lakesoil.net.au

Registered Office:
100 Albert Road
South Melbourne
Victoria 3205
Ph: +61 3 9629 1566





A.C.N. 004 247 214

Lakes Oil N.L.

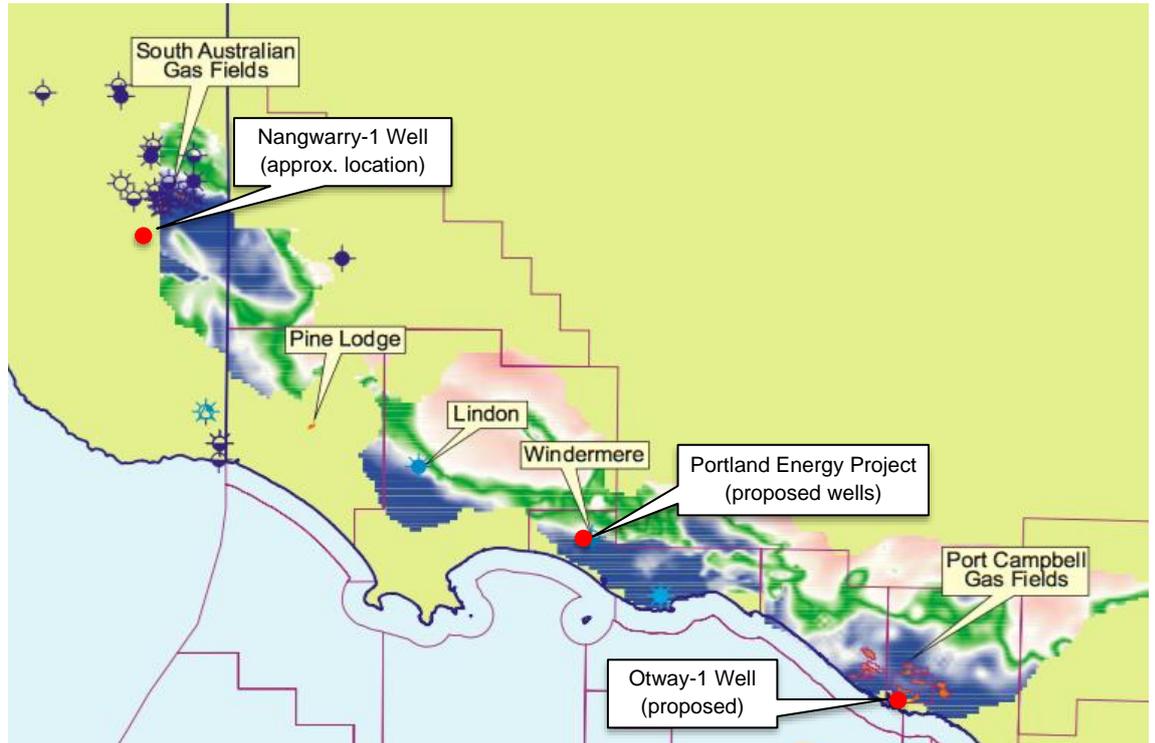
ASX
Announcement
and Media Release
8 July 2019

www.lakesoil.net.au

Registered Office:
100 Albert Road
South Melbourne
Victoria 3205
Ph: +61 3 9629 1566



Figure 2: Astral-1 petroleum system
(Figure 10 from VIMP Report 90, "A Technical Assessment of the Yet-to-find Hydrocarbon Resource Inventory, Offshore and Onshore Otway Basin, Victoria, Australia", GeoScience Victoria, June 2007. Areas of peak hydrocarbon production are shaded green.)



1. Estimates are in accordance with the Petroleum Resources Management System (SPE, 2007) and Guidelines for Application of the PRMS (SPE, 2011). Probabilistic methods were used. Sales gas recovery and shrinkage have been applied to the Prospective Resource estimation. The losses include those from the field use, as well as fuel and flare gas. Volumes have shrinkage applied to correct for estimated inerts and liquid dropout. This is detailed below.

Prospective and Contingent Resources:

With respect to Prospective Resource estimates contained in this ASX release, estimated quantities of petroleum that may potentially be recovered by the application of future development projects relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration, appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

Reserves and resources are reported in accordance with the definitions of reserves, contingent resources and prospective resources and guidelines set out in the Petroleum Resources Management System (PRMS) approved by the Board of the Society of Petroleum Engineers in 2007.

Reserves Evaluators:

RISC Advisory Pty Ltd – Nangwarry Prospect Prospective Resource Assessment
RISC is an independent oil and gas advisory firm. All of the RISC staff engaged in this assessment are professionally qualified engineers, geoscientists or analysts, each with many years of relevant experience and most have in excess of 20 years. Preparation of the assessment was supervised by Mr. Ian Cockerill, RISC Head of Geoscience. Mr. Cockerill has 20 years' experience in the upstream hydrocarbon industry with Hunt Oil, Apache Energy and RISC. He is a member of the American Association of Petroleum Geologists, the Geological Society of London and the Petroleum Exploration Society of Australia. He has extensive experience with mature and greenfield oil, gas, gas-condensate and unconventional developments in North America, Europe, Africa, Middle East, South East Asia and Australasia. Mr. Cockerill holds an MSc in Basin Evolution and Dynamics from Royal Holloway College, University of London, 1999 as well as a BSc in Geological Sciences (First (Hons)) from Leeds University, 1996. Mr. Cockerill is a qualified petroleum reserves and resources evaluator (QPPRE) as defined by ASX listing rules.