



**ESSENTIAL PETROLEUM RESOURCES LIMITED
QUARTERLY EXPLORATION REPORT
FOR THE THREE MONTH PERIOD ENDED 31 DECEMBER 2004**

During the quarter two offshore Otway Basin exploration wells, Callister 1 and Amrit 1 were drilled by Santos in permits adjacent to Essential Petroleum's permits VIC/P46 and VIC/50. In each case the wells were plugged and abandoned as planned. Callister 1 was reported as having gas shows and Amrit 1 was reported as having not intersected economic hydrocarbons. The wells have been drilled as "tight holes" and as such minimal disclosure of information about the wells has been made by Santos. As a result, we can only conclude that while hydrocarbons may have been encountered in each of these wells, neither made a commercial discovery.

During the quarter mapping of the Nelson seismic survey in PEP 151 in the Portland Trough was completed. The Pritchard Prospect has been chosen for drilling in the second quarter 2005. The prospect is a relatively simple structure and has several targets including oil at the Pebble Point horizon and gas at the Flaxman and Waarre Horizons. The most likely date for drilling to commence is mid May 2005.

In November the Company farmed out a 17.5 percent interest in the offshore permit VIC/P46 to Beach Petroleum Limited. Interest holders in VIC/P46 are now as follows:

Essential Petroleum Resources Limited (operator)	57.5%
Mittwell Energy	25.0%
Beach Petroleum	17.5%

The Company is continuing its farmout campaigns in both VIC/P46 and VIC/P50.

A 2D seismic survey in the contiguous offshore permits Vic/P46 and Vic/P50 was carried out in November. The survey involved 719 km in VIC/P50 and 390 km in VIC/46. The survey was run to provide further detail of the Kepler/Bernoulli trend in VIC/P46 and further detail over the shelf edge including top Cretaceous tilted fault block prospects and the Oligocene low stand fan prospect in VIC/P50.

During the quarter the Company undertook continued interpretation of prospects and leads in all its permits. The Company has also commenced reviewing farmin offers in other permits in the Otway Basin with a view to drilling in 2005.

During the quarter no commercial hydrocarbons were discovered or acquired by the Company.

PEP 151 - 100% Onshore Otway Basin Victoria

Interpretation of the Nelson seismic survey data was completed during the quarter and a number of structures identified. The most promising of these is the Pritchard Prospect, which at depth is a simple four-way dip closure of about seven square kilometres just to the east and north of the Henke 1 well. The prospect was not tested by the Henke 1 well drilled in 1986. The prospect has several targets including oil at the Pebble Point horizon and gas at the Flaxman and Waarre Horizons. The Pritchard Prospect has been chosen as the first well in PEP 151 and the location is subject to final checking of the seismic data.

Origin Energy, on behalf of several onshore operators, has contracted a drilling rig to be mobilised to the Otway Basin and Essential Petroleum has secured a slot in the program. The most likely date for drilling to commence in PEP 151 is mid May 2005. Detailed planning for the well has commenced included preparation of a cost estimate, site planning and access and tendering for casing and materials.



A detailed environmental study of potential drilling locations has been completed by Ballarat University and the site is not subject to any special environmental constraints.

A geochemical study of the permit is planned for first quarter 2005. The study will utilise Gore technology and will assist in high grading the prospects and leads in the permit. In addition to the regional survey in PEP 151 detailed surveys of the Port Fairy 1 location in PEP 152 and the Lindon 1 location in PEP 150 will assist in calibrating the survey to known hydrocarbon accumulations.

Negotiations on the Production Agreement with the Native Title Claimants have progressed and drafting of the legal documentation has now commenced.

Farmout presentations on PEP 151 have commenced with several companies expressing interest in the permit

PEP 150 - 50% Onshore Otway Basin Victoria

Essential Petroleum has increased its interest in PEP 150 to 50 percent. Beach Petroleum will hold the remaining 50 percent and is continuing to negotiate a conjunctive agreement with the Native Title applicants. No further technical work has been undertaken in the permit.

PEP 152 - 84.41% Onshore Otway Basin Victoria

Work on the Port Fairy 1 well abandonment is continuing. A third party contractor has been mobilized to set a plug in the well and a local Water Well driller will then convert the well to a water well for the property owner. Site restoration operations of the Killarney 1 well have commenced.

PEP 159 - 100% Onshore Otway Basin Victoria

PEP 159 will enter its final year in March 2005 and evaluation of selected leads will be undertaken during the permit year to determine the remaining prospectivity. Restoration of the Findra well site has commenced and an agreement and signoff with the landowner has been reached.

PEL 72 - 50% Onshore Otway Basin South Australia

Interpretation of the data from the Harris Flat seismic survey was completed during the quarter. An amplitude versus offset study (AVO) was carried out by a specialist seismic processing consultant on the Harris Flat data. The report did not confirm the AVO effects as being due to hydrocarbons and concluded that the effects were difficult to distinguish from geological effects due to difficult seismic acquisition problems in the area. The Joint Venture has decided that a well could not be justified at this stage and an application has been made to PIRSA to suspend the permit for 18 months. The suspension and extension will allow time for a study of the problems of acquiring high quality seismic data in this acknowledged difficult area for seismic acquisition.

VIC/P46 - 67.5% Offshore Otway Basin

In November the Company farmed out a 17.5 percent interest in the permit to Beach Petroleum Limited. Interest holders in VIC/P46 are now as follows.

Essential Petroleum Resources Limited (operator)	57.5%
Mittwell Energy	25.0%
Beach Petroleum	17.5%

During the quarter the Company carried out a 2D seismic survey in the permit. The survey was run to provide further detail of the Kepler/Bernoulli trend and further detail over the shelf edge including top Cretaceous tilted fault block prospects and the Oligocene low stand fan prospect. The OEP04 2D seismic program was completed on 26 November. A total of 390 line kilometres were run in VIC/P46 and the balance of the program was run in VIC/P 50 (see below). A contract for the processing of the OEP 04 data has been let to the seismic processing company CGG. Processing should be completed by end April 2005 and interpretation of the data will commence as soon as the data is received.

Extensive seismic surveys and between 4 to 6 wells by other operators are planned in the offshore Otway Basin in the coming year. Following the farmout to Beach Petroleum the Company is continuing its farmout campaign of the permit. A well is planned for early 2006 dependent on rig availability. Planning for a 3D survey is also underway with a view to acquiring approximately 300 to 500 square kilometres of 3D seismic data. This survey is also dependent on the availability of a suitable 3D seismic vessel, most likely towards the end of 2005.

VIC/P50 - 100% Offshore Otway Basin

During the quarter the Company carried out a 2D seismic survey in the permit. The survey was run contiguously with the survey in VIC/P46 using the Multiwave vessel Pacific Titan. The program involved 718 km of 2D seismic acquisition and was completed in November. The seismic survey focused on the tilted fault block prospects developed along the shelf break. The tilted fault blocks underlie the highly prospective Descartes and Henty turbidite plays of Late Eocene Early Oligocene age. The turbidite plays are partly within VIC/P50 and partly within permit VIC/P46 and both the turbidite and the underlying tilted fault blocks are regarded as primarily prospective for oil rather than gas. Reprocessing of 600km of the 1980 and 1991 seismic data has also been completed during the quarter and interpretation commenced.

Following a request to the Designated Authority the permit has been extended eight months from 16 September 2004 to 16 May 2005 and will now expire on 16 May 2009. This request was made to allow time for the acquisition and processing of the OEP04 2D seismic survey, which was the Year 2 work program commitment for the permit

ESSENTIAL PETROLEUM RESOURCES LTD
PERMIT EXPENDITURE SUMMARY FOR THE QUARTER ENDED 31 DECEMBER 2004*

Permit Number	Essential Petroleum Interest	Seismic Survey Expenditure	Geological & Geophysical Studies	Environment, Native Title & Permit Maint.	Drilling Expenditure	Total
PEP 151	100.00%	\$ 420.00	\$ 18,802.00	\$ 4,945.00	\$ -	\$ 24,167.00
PEP 150	50.00%	\$ -	\$ -	\$ -	\$ -	\$ -
PEP 152	84.41%	\$ -	\$ -	\$ 255.00	\$ -	\$ 255.00
PEP 159	100.00%	\$ -	\$ 306.00	\$ 255.00	\$ 1,930.00	\$ 2,491.00
PEL 72	50.00%	\$ 8,705.00	\$ 8,705.00	\$ 13,590.00	\$ -	\$ 31,000.00
VIC/P46	67.50%	\$ 314,374.00	(\$ 3,787.00)	\$ 13,500.00	\$ -	\$ 324,087.00
VIC/P50	100.00%	\$ 817,051.00	\$ 5,148.00	\$ 8,747.00	\$ -	\$ 830,946.00
		\$ 1,140,550.00	\$ 29,174.00	\$ 41,292.00	\$ 1,930.00	\$ 1,212,946.00

* This statement has been prepared based on accrual accounting principles

Roger Blake MSc, Exploration Director, Essential Petroleum Resources Limited has prepared this Quarterly Exploration Report.