



**ESSENTIAL PETROLEUM RESOURCES LIMITED
QUARTERLY EXPLORATION REPORT
FOR THE THREE MONTH PERIOD ENDED 30 JUNE 2003**

In the June quarter the Company conducted and completed a seismic survey over Crown and freehold land within PEP 151. Part of the survey was located over the Lower Glenelg National Park and access was limited to roads and tracks through the Park. The survey represents a landmark for the Company and follows extensive negotiations with Parks Victoria and the Victorian government. Approval to conduct the survey achieved bipartisan political agreement and followed strict environmental and operational guidelines. The data was acquired using 3D Seismic acquisition techniques and approximately 106 square kilometres of 3D data was acquired together with approximately 255 line kilometres of 2D data. Test processing of part of the data set is currently being undertaken with a view to determining the final processing sequence and parameters.

During the quarter the results of drilling of the Koroit West No 1 well in PEP152 and the results of drilling the Banganna No 1 well in PEP 159 were evaluated. Although both wells failed to intersect commercial hydrocarbons the results are being incorporated into further seismic mapping of the permits. The results from the wells suggest that a valid petroleum system exists in the early Tertiary Pebble Point and Pember Formations and in the Paaratte Formation. Seismic mapping will concentrate on these formations as well as the older Waarre Formation play.

Interpretation of the 740 km 2D marine seismic survey, which was acquired in the offshore permit Vic/P46 in November 2002, is underway. The initial results are encouraging indicating the existence of several large structures on the shelf area of the permit.

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

PEP 151 - 100% Onshore Otway Basin Victoria

As highlighted above, during the quarter, the Company conducted and completed a seismic survey over Crown and freehold lands within PEP 151. Test processing of part of the data set is currently under way and will determine the final processing sequence and parameters.

Negotiations on a Production Consent agreement with the Gunditjmara People are proceeding. These negotiations follow on from the successfully negotiated Exploration Consent Deed and will determine the conditions under which the Company will operate if hydrocarbons are found in the permit.

PEP 150 - 25% Onshore Otway Basin Victoria

The operator of the permit, Origin Energy, is continuing Native Title negotiations and has had further meetings with the Gunditjmara People. The Joint Venture is planning a seismic survey with the objective of identifying Waarre plays within the Portland Trough. Seismic work will follow on from completion of the negotiations and the formal grant of the permit. Further work by Essential Petroleum will be carried out on Pebble Point plays within the Portland Trough and Pretty Hill plays in other areas outside the Portland Trough such as the Ardonachie Trough.

PEP 152 - 33.9% Onshore Otway Basin Victoria

The results of drilling of the Koroit West No 1 well were evaluated. The well was drilled to a depth of 850 m with no significant hydrocarbons being discovered. The well was plugged and abandoned. Post-well evaluation suggests that a valid petroleum system exists in the early Tertiary Pebble Point and Pember Formations and in the Sherbrook Group Paaratte Formation. Essential Petroleum is undertaking seismic mapping at these horizons in this permit and the adjacent permit PEP 159 to the north. The well indicated the presence of good quality reservoir rocks and sufficient seal capability at these horizons and further studies will be undertaken along the same trend.

PEP 159 - 50% Onshore Otway Basin Victoria

The results of drilling of the Banganna prospect were evaluated. The well, operated by Origin Energy, was a dry hole and encountered no significant hydrocarbons. The post mortem on the well concluded that the most probable reason for the apparent AVO anomaly was that it was due to lithologic factors including a low velocity and low density sandstone immediately beneath the Killara Coals, not due to a hydrocarbon effect. Further work in the permit by Essential Petroleum will concentrate on seismic mapping of the Findra prospect and associated prospects at the Pebble Point Formation and upper Sherbrooke Group horizons. Preliminary reinterpretation of the Hawkesdale prospect, originally drilled by Frome Broken Hill Ltd in the Hawkesdale area, suggests the Pretty Hill Formation is not prospective at this location.

PEL 72 - 50% Onshore Otway Basin South Australia

The gravity survey of the permit has been completed. The data has been processed and preliminary interpretation and gravity modelling has commenced. Interpretation of the survey will aid in identification of prospects and leads in the permit. The first year geological and geophysical studies have been completed and the joint venture has agreed to conduct a seismic survey in the second year of the permit.

Interpretation of the existing seismic data in the permit has commenced. A velocity study is now complete and well tops are being incorporated into the interpretation.

Vic/P46 - 67.5% Offshore Otway Basin

Interpretation and mapping of the 740 km seismic survey is currently underway. Mapping of several horizons has been completed and maps generated. New palaeontology results from all wells previously drilled in the permit are being incorporated into the seismic interpretation. The initial results are very encouraging and an amplitude versus offset study (AVO) is being undertaken to indicate the possible presence of hydrocarbons in several structures identified from structural mapping.

Vic/P50 - 100% Offshore Otway Basin

Essential is in the first year of exploration in this block and has a commitment to conduct Geological and Geophysical studies, budgeted to cost \$70,000, by September 2003. This work will prepare the block for the acquisition of seismic data in Year 2. The seismic survey will focus on prospects developed along the shelf break including highly prospective turbidites of Late Eocene Early Oligocene age.



PERMIT EXPENDITURE SUMMARY FOR THE PERIOD

Permit Number	Essential Petroleum Interest	Seismic Survey Expenditure	Geological and Geophysical Studies	Environmental Native Title & Permit Maintenance	Drilling Expenditure
PEP 151	100%	\$1,704,000.00	\$99,544.00	\$65,916.00	\$0.00
PEP 150	25%	\$0.00	\$0.00	\$2,500.00	\$0.00
PEP 152	33.9%	\$0.00	\$0.00	\$4,000.00	\$249,000.00
PEP 159	50%	\$0.00	\$0.00	\$2,400.00	\$0.00
PEL 72	50%	\$0.00	\$33,000.00	\$0.00	\$0.00
VIC/P46	67.5%	\$0.00	\$68,000.00	\$7,500.00	\$0.00
VIC/P50	100%	\$0.00	\$3,850.00	\$0.00	\$0.00

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