



## **ESSENTIAL PETROLEUM RESOURCES LIMITED QUARTERLY EXPLORATION REPORT FOR THE THREE MONTH PERIOD ENDED 31 DECEMBER 2005**

### **Highlights**

- Bass Strait Oil Company earning a 25% working interest in PEP 151.
- Negotiations with a third party to earn a 25% working interest in PEP 151 nearing completion
- Results of comprehensive reservoir study in VIC/P46 are very encouraging.
- 300 km 2D seismic survey planned for VIC/P50 in second quarter 2006.
- 300 sq km 3D seismic survey over the Bernoulli Prospect in VIC/P46 proposed for 2006.
- Preparations underway for Pritchard 1 well in PEP 151 expected to spud early March 2006.

### **Summary**

During the December quarter work continued on farming out interests in VIC/P46 and PEP 151.

Bass Strait Oil Company Limited (BAS) will farm in to PEP 151 subject to execution of a farm-in agreement and a JOA and negotiations are well advanced with a third party. BAS and the third party will earn their interests by contributing to the drilling of Pritchard 1. The farm-out of PEP 151 has been negotiated on terms that recognize EPR's contribution to the permit.

The comprehensive reservoir study addressing sand provenance and reservoir quality in VIC/P46 is now complete. The work has improved our understanding of the structural and depositional history of the central-western Otway Basin with significant positive implications for our Fermat and Bernoulli prospects in VIC/P46.

In December the VIC/P46 JV technical committee recommended the acquisition of up to 300 sq km of 3D seismic over the Bernoulli Prospect. EPR as operator, has requested an option to acquire this survey with the Pacific Titan in May/June 2006.

Planning for the Pritchard 1 well in PEP 151 continues. We anticipate that the Pritchard 1 well will be drilled in the first quarter 2006. The well will test a series of stacked targets before reaching a total depth of more than 2600 metres. The Pritchard Prospect lies on the northwest flank of the Portland Trough within the predicted oil fairway.

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

### **PEP 151      100%      Onshore Otway Basin Victoria**

Bass Strait Oil Company Limited (BAS) will farm in to PEP 151 subject to execution of a farm-in agreement and a JOA and negotiations are well advanced with a third party. BAS and the third party will earn their interests by contributing to the drilling of Pritchard 1. The farm-out of PEP 151 has been negotiated on terms that recognize EPR's contribution to the permit.

Preparations for the Pritchard 1 well, planned for drilling in the first quarter of 2006, continue. The well will test a series of stacked targets before reaching a total depth in the vicinity of 2600 metres. The well targets both the Pebble Point/Paaratte play which has generated multiple oil shows in PEP 151 and adjacent areas, and lower Sherbrook Group plays, of proven commercial value elsewhere in the basin.

Essential Petroleum's geological modelling predicts the presence of oil on the flanks of the Portland Trough. The presence of oil has been indicated by a series of significant oil shows from earlier drilling in the region, including Lindon 1 (drilled in 1984) and Windermere 1 (1987). The Pritchard Prospect lies on the northwest flank of the Portland Trough within the predicted oil fairway.

The Pritchard Prospect stacked reservoirs have the combined, un-risked median potential to host a recoverable resource of 17 million barrels of oil.

**PEP 150          50%                  Onshore Otway Basin Victoria**

No further technical work has been undertaken in the permit.

**PEP 152          84.41%                Onshore Otway Basin Victoria**

PEP 152 expired 2 November 2005.

Port Fairy 1 has been abandoned and converted to a water well and is now the responsibility of the landowner. Restoration of the Port Fairy 1 well site will be completed in the first quarter 2006.

**PEP 159          100%                  Onshore Otway Basin Victoria**

No further technical work has been undertaken in the permit. The permit is in good standing and will be allowed to expire 11 March 2006.

**PEL 72          50%                  Onshore Otway Basin South Australia**

Nothing further to report.

**PEL 27          20%                  Onshore Otway Basin South Australia**

The Cowrie 1 well was drilled in November 2005. The well was plugged and abandoned with no shows.

This result is particularly disappointing as predictions of improved Sawpit Sandstone reservoir development were confirmed. The lack of shows indicates that hydrocarbons were never trapped in the structure. Either the structure was not in the hydrocarbon migration pathway and hydrocarbons never passed through, or the trap was breached at the time that hydrocarbons passed through.

PEL 27 is located on the northern flank of the Penola trough, a proven hydrocarbon province with five commercial gas fields and additional gas/condensate/oil shows and recoveries. Gas discoveries in the central Penola Trough become more liquids rich away from the depositional axis. Oil occurrences at Sawpit 1 and Killanoola 1 are along trend from Cowrie 1.

The lateral sealing potential of the prospect-bounding fault was identified as a main risk of the Cowrie Prospect prior to drilling. If it can be shown that the Cowrie 1 well failed due to sand juxtaposition across the fault then the untested Nampara Prospect remains an attractive target in PEL 27.



The operator of PEL 27, Beach Petroleum Limited, is to make a recommendation of action that will include further work on Killanoola and Killanoola South to determine the optimum retention licence and/or drill testing the Nampara Prospect.

Essential Petroleum is currently considering an option to take up a 20% interest in PEL 136 immediately north of PEL 27.

#### **VIC/P46      57.5%      Offshore Otway Basin**

The comprehensive reservoir study addressing sand provenance and reservoir quality in VIC/P46 is now complete. The work has improved our understanding of the structural and depositional history of the western Otway Basin with significant positive implications for the Fermat and Bernoulli prospects in VIC/P46.

The study has shown that:

- VIC/P46 overlies the Discovery Bay High (DBH), a major structural feature that has influenced sediment distribution throughout the history of the Otway Basin. The DBH separates the Late Cretaceous Morum Sub-basin (South Australia) and Late Cretaceous Nelson Sub-basin (Victoria) depocentres.
- Good Waarre C sands intersected in the Morum Sub-basin can be seismically mapped into the Fermat and Bernoulli prospects on the western side of the DBH.
- Quartzose sands in the Morum Sub-basin preserve reasonable porosity to depths in excess of 3700 metres.

Following a review of the Fermat and Bernoulli prospects the JV technical committee unanimously recommended the acquisition of up to 300 sq km of 3D seismic over the Bernoulli Prospect. The Bernoulli Prospect is a complex horst structure that cannot be properly risked and ranked against the Fermat Prospect without 3D seismic.

Subject to JV operating committee approval of the seismic acquisition, Essential has requested an option on the Pacific Titan for May 2006.

Dialogue continues with parties interested in farming into VIC/P46. The results and implications of the reservoir study will be presented to interested parties in the first quarter of 2006.

#### **VIC/P50      100%      Offshore Otway Basin**

2D and 3D seismic data over Santos's Hill and Amrit prospects in VIC/P51 and VIC/P52 became available in December 2005. This data has been incorporated into our seismic database and will be interpreted in conjunction with Essential Petroleum's 2004 data. The 3D data may provide insights into fault orientation and controls on sediment distribution that are not clear on 2D seismic. These insights can then be applied to the 2D seismic interpretation in VIC/P50.

Santos as agent operator for EPR, has contracted Multiwave to acquire 300 km of 2D seismic data in VIC/P50 in May 2006.

**ESSENTIAL PETROLEUM RESOURCES LTD**

**PERMIT EXPENDITURE SUMMARY FOR THE QUARTER ENDED 31 DECEMBER 2005\***

<b>Permit Number</b>	<b>Essential Petroleum Interest</b>	<b>Seismic Survey Expenditure</b>	<b>Geological &amp; Geophysical Studies</b>	<b>Environment, Native Title &amp; Permit Maint.</b>	<b>Drilling Expenditure</b>	<b>Total</b>
PEP 151	100.00%	\$ -	\$ 3,799.45	\$ 24,432.52	\$ 25,048.58	<b>\$ 53,280.55</b>
PEP 150	50.00%	\$ -	\$ -	\$ -	\$ -	<b>\$ -</b>
PEP 152	84.41%	\$ -	\$ -	\$ -	\$ -	<b>\$ -</b>
PEP 159	100.00%	\$ -	\$ -	\$ 1,472.00	\$ 320.00	<b>\$ 1,792.00</b>
PEL 72	50.00%	\$ -	\$ -	\$ -	\$ -	<b>\$ -</b>
VIC/P46	67.50%	(\$ 5,639.00)	\$ 52,121.00	\$ 28,156.00	\$ -	<b>\$ 74,638.00</b>
VIC/P50	100.00%	\$ -	\$ -	\$ -	\$ -	<b>\$ -</b>
PEL27	20.00%	\$ -	\$ -	\$ 10,150.35	\$ 432,000.00	<b>\$ 442,150.35</b>
Non Specific	100.00%	\$ -	\$ 16,216.91	\$ -	\$ -	<b>\$ 16,216.91</b>
		<b>-\$ 5,639.00</b>	<b>\$ 72,137.36</b>	<b>\$ 64,210.87</b>	<b>\$ 457,368.58</b>	<b>\$ 588,077.81</b>

*\* This statement has been prepared based on accrual accounting principles*

*John Remfry,, Managing Director, Essential Petroleum Resources Limited has prepared this Quarterly Exploration Report.*

# Appendix 5B

## Mining exploration entity quarterly report

Name of entity:

Essential Petroleum Resources Limited

ACN or ARBN

089 956 150

Quarter ended ("current  
quarter")

December 31, 2005

### Consolidated statement of cash flows

Cash flows related to operating activities	Current quarter \$A'000	Year to date ( 12 months) \$A'000
1.1 Receipts from product sales and related debtors	4	68
1.2 Payments for		
[a] exploration and evaluation	(593)	(828)
[b] development		
[c] production		
[d] administration	(225)	(427)
1.3 Dividends received		
1.4 Interest and other items of a similar nature received	41	89
1.5 Interest and other costs of finance paid		
1.6 Income taxes paid		
1.7 Other (provide details if material)		
<b>Net Operating Cash Flows</b>	<b>(773)</b>	<b>(1,098)</b>
<b>Cash flows related to investing activities</b>		
1.8 Payment for purchases of:		
[a] prospects	-	-
[b] equity investments	-	-
[c] other fixed assets	(5)	(14)
1.9 Proceeds from sale of:		
[a] prospects	-	-
[b] equity investments	-	-
[c] other fixed assets	-	-
1.10 Loans to other entities		
1.11 Loans repaid by other entities		
1.12 Other (provide details if material)		
<b>Net Investing Cash Flows</b>	<b>(5)</b>	<b>(14)</b>
1.13 Total operating and investing cash flows (carried forward)	<b>(778)</b>	<b>(1,112)</b>

**Appendix 5B**

**Mining exploration entity quarterly report**

1.13	Total operating and investing cash flows (brought forward)	(778)	(1,112)
<b>Cash flows related to financing activities</b>			
1.14	Proceeds from issues of shares, options, etc.	-	-
1.15	Proceeds from sale of forfeited shares	-	-
1.16	Proceeds from borrowings	-	-
1.17	Repayment of borrowings	-	-
1.18	Dividends paid	-	-
1.19	Other (payment in relation to capital raising)	-	-
<b>Net financing cash flows</b>		-	-
<b>Net increase (decrease) in cash held</b>		(778)	(1,112)
1.20	Cash at beginning of quarter/year to date	2,839	3,173
1.21	Exchange rate adjustments to item 1.20	-	-
1.22	<b>Cash at end of quarter</b>	2,061	2,061

**Payments to directors of the entity and associates of the directors**

**Payments to related entities of the entity and associates of the related entities**

		Current quarter \$A'000
1.23	Aggregate amount of payments to the parties included in item 1.2	72
1.24	Aggregate amount of loans to the parties included in item 1.10	-

1.25 Explanation necessary for an understanding of the transactions

**Non-cash financing and investing activities**

2.1 Details of financing and investing transactions which have had a material effect on consolidated assets and liabilities but did not involve cash flows

2.2 Details of outlays made by other entities to establish or increase their share in projects in which the reporting entity has an interest.

**Financing facilities available**

	Amount available \$A'000	Amount used \$A'000
3.1 Loan facilities		
3.2 Credit standby arrangements		

**Estimated cash outflows for next quarter**

	\$A'000
4.1 Exploration and evaluation	370
4.2 Development	-
<b>Total</b>	<b>370</b>

**Reconciliation of cash**

Reconciliation of cash at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts is as follows:

	Current quarter \$A'000	Previous quarter \$A'000
5.1 Cash on hand and at bank	552	863
5.2 Deposits at call	1,509	1,976
5.3 Bank overdraft	-	-
5.4 Other (provide details)	-	-
<b>Total: cash at end of quarter</b> (item 1.22)	<b>2,061</b>	<b>2,839</b>

**Changes in interests in mining tenements**

	Tenement reference	Nature of interest (note (2))	Interest at beginning of quarter	Interest at end of quarter
6.1	Interests in mining tenements relinquished, reduced or lapsed			
6.2	Interests in mining tenements acquired or increased			


## Issued and quoted securities at end of current quarter

Description includes rate of interest and any redemption or conversion rights together with prices and dates.

	Total number	Number quoted	Issue price per security (see note 3) (cents)	Amount paid up per security (see note 3) (cents)
<b>7.1 Preference securities</b> <i>(description)</i>				
<b>7.2</b> Changes during quarter:				
(a) Increases through issues				
(b) Decreases through returns of capital, buy-backs, redemptions				
<b>7.3 Ordinary securities</b>	157,200,656	157,200,656		
<b>7.4</b> Changes during quarter:				
(a) Increases through issues				
(b) Decreases through returns of capital, buy-backs, redemptions				
<b>7.5 Convertible debt securities</b> <i>(description)</i>				
<b>7.6</b> Changes during quarter:				
(a) Increases through issues				
(b) Decreases through returns of capital, buy-backs, redemptions				
<b>7.7 Options</b> <i>(description and conversion factor)</i>			<i>Exercise price</i>	<i>Expiry date</i>
Employee Options		-		
Unlisted Options		-		
<b>7.8</b> Issued during quarter				
- Employee Options				
- Unlisted Options				
<b>7.9</b> Exercised during quarter				
<b>7.10</b> Expired during quarter				
<b>7.11 Debentures</b> <i>(total only)</i>				
<b>7.12 Unsecured notes</b> <i>(totals only)</i>				

# Compliance Statement

- 1 This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act, 2001 or other standards acceptable to ASX (see note 4).
- 2 This statement does give a true and fair view of the matters disclosed.

Sign here:  Date: 31 January 2006

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(Director)

Print Name: **John G Remfry**

## Notes

- 1 The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity wanting to disclose additional information is encouraged to do so, in a note or notes attached to this report.

- 2 The "Nature of interest" (items 6.1 and 6.2) includes options in respect of interests in mining tenements acquired, exercised or lapsed during the reporting period. If the entity is involved in a joint venture agreement and there are conditions precedent which will change its percentage interest in a mining tenement, it should disclose the change of percentage interest and conditions precedent in the list required for items 6.1 and 6.2.

- 3 **Issued and quoted securities:** The issue price and amount paid up is not required in items 7.1 and 7.3 for fully paid securities.

- 4 The definitions in, and provisions of, *AASB 1022: Accounting for Extractive Industries* and *AASB 1026: Statement of Cash Flows* apply to this report.

- 5 **Accounting Standards** ASX will accept, for example, the use of International Accounting Standards for foreign entities. If the standards used do not address a topic, the Australian standard on that topic (if any) must be complied with.