Essential Petroleum Resources Limited

ASX ANNOUNCEMENT

19 October 2005

Independent Assessment of Essential Petroleum's Exploration Program

ResourceInvest Pty Ltd has undertaken an independent assessment of Essential Petroleum Resources' Otway Basin petroleum exploration assets. The report was commissioned by Essential Petroleum and is included with this announcement. It is available on the Company's website at www.essentialpetroleum.com.au

Essential Petroleum has onshore and offshore petroleum exploration permits in the Otway Basin and expects to be participating in drilling at least two onshore wells and as many as two offshore wells by December 2006.

ResourceInvest has made an assessment of exploration leverage and pre-drill value on four of the Company's prospects using a standard petroleum industry Risk and Expected Monetary Value approach. In making its assessment, ResourceInvest has had full access to the Company's basic and interpreted database.

The report is comprehensive and provides a detailed breakdown of a program that has the combined un-risked potential to add $1.50 per share. The assessment ascribes an expected monetary value of 27 cents per share to the Company's shares, assuming that farm-outs are achieved on Pritchard, Fermat and in VIC/P50. Negotiations on these farm-outs are well underway and will be concluded prior to drilling.

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resource invest research

19 October 2005

ESSENTIAL PETROLEUM RESOURCES (EPR)

Directors

John Cornelius	Chairman
John Remfry	Managing Director
Garrick Higgins	Non Ex Director

Market Data

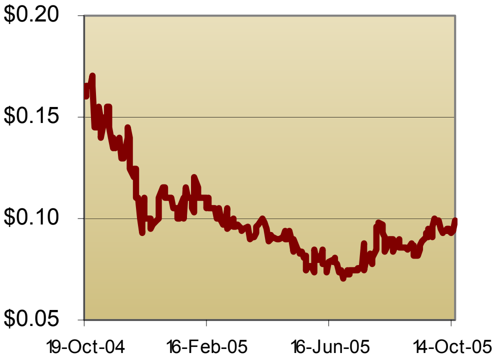
Share price	$	0.099
Ordinary Shares	m	157.20
Options	m	0.0
Fully Diluted	m	157.20
Market capitalisation	$m	**15.56**
Major shareholders		
Cairnglen Investments	%	17.8
JP Morgan Nominees	%	10.5
Permanent Trustees Aust	%	5.0

Exploration Projects

Onshore Otway Basin	**Interest**
PEP151	100.0
PEP150	50.0
PEP152	84.41
PEP159	100.0
PEL72	50.0
PEL27	20.0
Offshore Otway Basin	
VIC/P46	57.5
VIC/P50	100.0

Essential Petroleum share price

data source: Australian Financial Review



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Summary

Essential Petroleum is likely to participate in two onshore wells and two offshore wells between November 2005 and December 2006. Both onshore wells will target oil rather than gas, and the largest of these—Pritchard-1—would have a significant impact on the company in the case of success. The offshore prospects and leads are likely gas targets, comparable, or larger, in size than recent discoveries in the basin at Geographe, Thylacine, Casino and most recently Henry. The deep water prospects in VIC/P50 may hold some oil potential.

In the case of success, on an unrisked mean basis, Cowrie (onshore South Australia) could add 5 cents per share, Pritchard (onshore Victoria) 84 cents per share in the case of an oil discovery, and Fermat (offshore Victoria) 62 cents per share. We believe Pritchard is a higher risk prospect given the lack of demonstrated nearby oil recoveries, but is justified by its high reward. Cowrie and Fermat are considered lower risk oil and gas prospects respectively.

On a risked basis, assuming Essential is successful in its current efforts to farmout Pritchard, Fermat and a well in VIC/P50, this exploration programme has an expected value of around $40 million.

Essential Petroleum has pursued an Otway Basin exploration strategy for the past five years, and is now exposed to both onshore and offshore exploration activity. The potential exists for the discovery of both oil and gas.

Even small oil discoveries in the current oil price environment can be very profitable, and two onshore wells, Cowrie-1 and Pritchard-1 are likely to be drilled in November 2005, and early 2006 respectively. Both have the potential for oil.

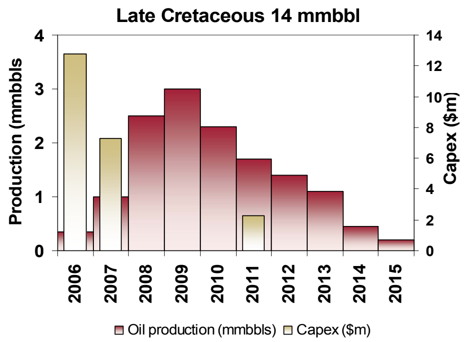
Offshore drilling in VIC/P46 and VIC/P50 is scheduled in late 2006. As in other offshore Otway Basin permits, the target in these permits is large gas resources. The Otway Basin is adjacent to the largest gas market in eastern Australia, and the effect of market deregulation in the 1990s has provided a receptive market for new gas discoveries in the region.

PEP 151, EPR 100%

PEP151 is a 1,700 square kilometre permit adjacent to the Victorian / South Australian border, and covering the western onshore portion of the Portland Trough, a half graben containing thick Tertiary and Cretaceous sediments.

Interpretation of the Nelson 2D/3D seismic survey has confirmed closures at both the Late Cretaceous and Tertiary target horizons. The Pritchard Prospect is a fault independent closure that predates the main Tertiary hydrocarbon generation phase and provides a test of the Late Cretaceous section. An apparent flat spot associated with a deeper interpreted Flaxman Formation may be a direct hydrocarbon indicator.

Typical oil production and capital expenditure profile for 14 million barrel oil field



NPV @ US$35.00/bbl = A$224m
NPV @ US$45.00/bbl = A$305m

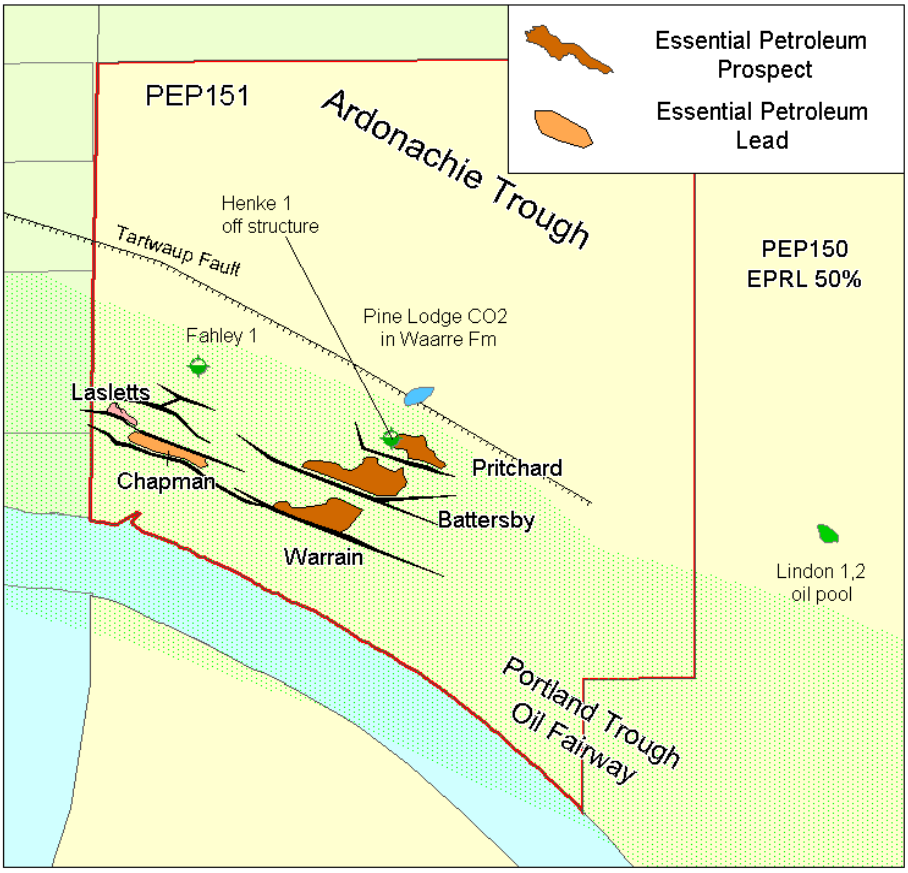
At the primary target, intra-Belfast horizon, the Pritchard Prospect has a potential mapped median volume of 10 million barrels (mmbbls) recoverable oil or 17 billion cubic feet (BCF) of recoverable gas. A smaller fault dependent closure mapped on the shallower Pebble Point horizon provides an additional target with a potential mapped volume of 4 mmbbls recoverable oil. A deeper, Flaxman Formation target, has the potential to reservoir a further 11 mmbbls, or 30 BCF of gas. Essential Petroleum aims to farm-out a 50% interest in this prospect prior to drilling later in 2005.

The economics of small onshore oil discoveries are obviously attractive under the current oil price scenario. We calculate that a 14 million barrel oil field over a ten year production life has an after tax net present value discounted at 10% of $224 million, using a flat real oil price of US$35.00 per barrel. For an oil price of US$45/bbl the NPV10 increases to $306 million.

We estimate that a 17 BCF gas field discovery would be marginally economic to develop on its own but with additional gas discoveries could

**Figure 1. PEP 151
Onshore Victoria, EPR 100%**

Seeking farm-in partner for Pritchard-1 well



Pritchard Prospect Risk

For our economic analysis of this prospect, we have assigned a 12.5% probability of success (POS), and assumed a most likely discovery volume of 14 million barrels.

become one component in a regional gas development.

PEL 27, EPR earning 20%

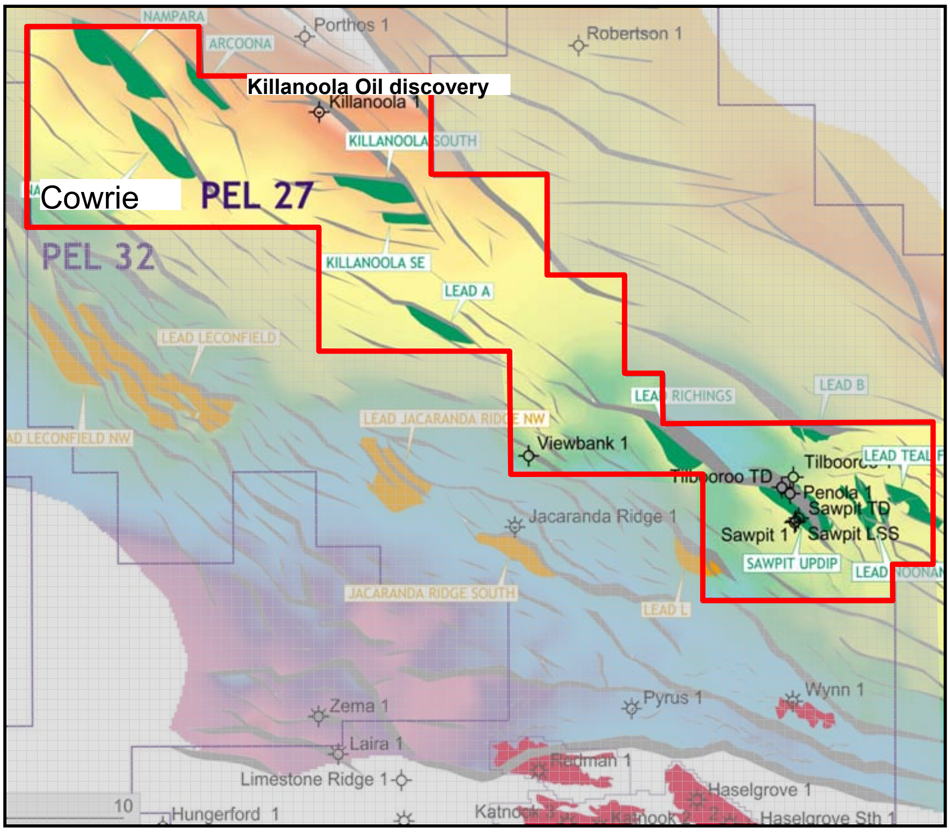
PEL 27 is located on the northern flank of the Penola Trough, a proven hydrocarbon province with 5 commercial gas fields and additional gas/ condensate/oil shows and recoveries. Gas discoveries in the central Penola trough become more liquids rich away from the depositional axis, demonstrated by oil occurrences at Sawpit-1 and Killanoola-1, along trend from the Cowrie prospect. (Figure 2).

The Cowrie prospect is a fault dependent closure, with a high chance of hydrocarbon source. It will be drilled in November. Recoverable reserve estimates range between 0.5 million barrels and 4.3 million barrels, with a mean of 2.2 million barrels. We value a 2.2 million oil discovery at $38 million after tax using an oil price of US$35/bbl, or $47million using an oil price of US$45/bbl.

Essential have farmed into this prospect and will earn a 20% interest. This exposes the company to a potential discovery value of between $7.6 and $9.4 million, for a 2.2 million barrel discovery.

Figure 2. PEL 27
Onshore South Australia

EPR earning 20%



Cowrie Prospect Risk

For our economic analysis of this prospect, we have assigned a 20.0% probability of success (POS), and assumed a most likely discovery volume of 2.2 million barrels.

Table 1. Pritchard & Cowrie Unrisked Values

Prospect	Unrisked-Value $m	Unrisked Value $m	Average un-risked value $m	Unrisked value to EPR $m
	@ $35/bbl	@ $45/bbl		
Pritchard	224	306	265.0	132.5
Cowrie	38	47	42.5	8.5

Offshore VIC/P46, EPR 57.5%

VIC/P46 is immediately offshore from PEP151 and lies approximately 130km west-northwest of the major offshore Otway Basin gas fields of Casino, Minerva, La Bella, Thylacine and Geographe. Recoverable reserves in these fields are believed to vary from around 250 BCF at Casino to around 800 BCF for the combined Geographe / Thylacine fields.

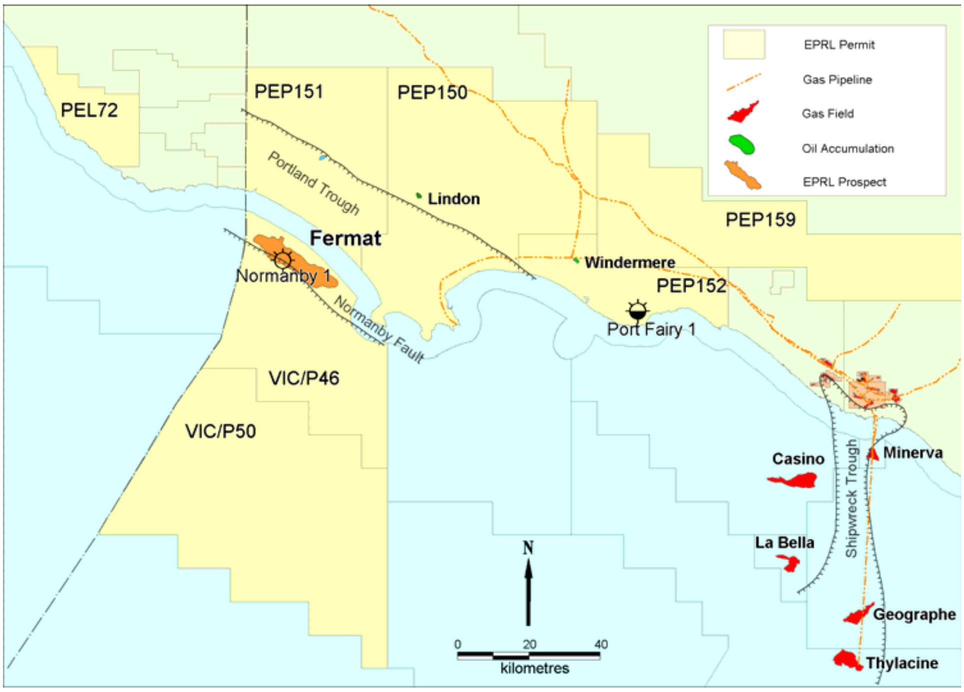
Essential has reprocessed past seismic as well as shooting 730 kilometres of 2D seismic in 2002. It has mapped one prospect to drillable stage—Fermat—along with a number of leads. The company has entered into farmin agreements with Beach Petroleum and Mitsui, which leaves it with a 57.5% interest. It is currently seeking a further farmin partner in order to reduce this interest to 32.5%. If this is successful, Essential will retain a largely free-carried interest in a 300 square kilometre 3D seismic survey and the drilling of the Fermat prospect. Drilling is scheduled to occur before the end of 2006.

The Fermat Prospect lies on a structural feature called the Normanby High, a north-west trending tilted fault block structure. The Waarre A sands of the prospect were tested by Normanby 1, in 1986, but gas kicks and high pressures at the base of the well prevented proper evaluation. Petrophysical and seismic analysis by Essential suggests the Waarre A sands in Normanby-1 are hydrocarbon bearing.

The total estimated recoverable gas resource for the Fermat Prospect is 1.1TCF in the Waarre C and Flaxman C sands with an additional 1.4TCF gas if the Waarre A sands are also gas filled. We have modelled a 1 TCF gas development that delivers gas via a short subsea pipeline to an onshore gas plant and then to the South East Australia pipeline. A twenty year gas project of this nature is likely to have a net present value of around $300 million. Essential's 32.5% share could thus be valued at $97.5 million.

Figure 3. VIC/P46
Offshore Victoria, EPR 57.5%

Seeking farm-in partner for Fermat-1 well

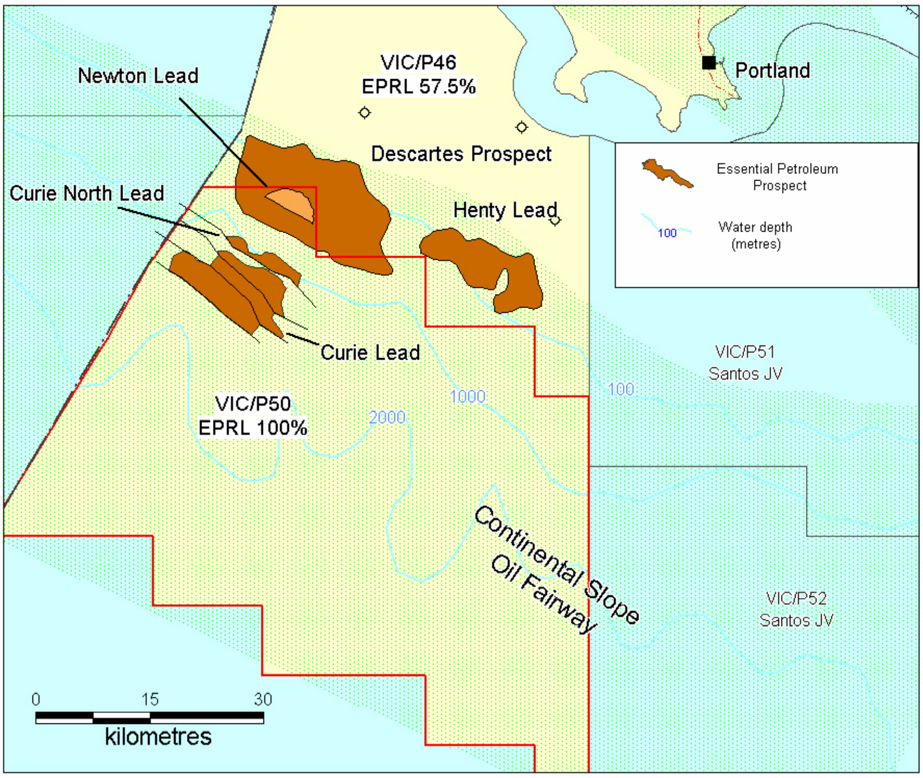


Fermat Prospect Risk

For our economic analysis of this prospect, we have assigned a 20.0% probability of success (POS), and assumed a most likely discovery volume of 1 TCF.

Figure 4. VIC/P50
Offshore Victoria, EPR 100%

Seeking farm-in partner



Offshore VIC/P50, EPR 100%

This permit lies adjacent to, and seaward of, VIC/P46, and extends over the continental slope in water depths from 200 metres to greater than 2,000 metres. The company is seeking to identify deep-water blanket or sheet-sand turbidite deposits, in an analogous exploration play to that being successfully pursued off west Africa, and in the deep water Northwest Shelf. Although the play is untested in this basin, we believe it represents a legitimate target, albeit a high risk one. Reservoir sand geometry (and even presence) is difficult to predict in turbidite plays, as is seal geometry and effectiveness. The company has mapped what it believes to be Oligocene turbidite sand packages (the Descartes and Henty prospects), overlying a large tilted fault block (Newton Lead). Additionally, large tilted fault blocks, the Curie and Curie North prospects, are mapped at the base of the continental slope.

Current interpretation of the 2004 2D seismic survey and reprocessed seismic is expected to better delineate these prospects, prior to a 3D seismic survey later in 2005. Successful farmout negotiations will be required prior to the drilling of one well at the end of 2006.

Other exploration permits

PEP 150, EPR 50%**; PEP 152,** EPR 84.41%**; PEP 159,** EPR 100%**; PEL 72,** EPR 50%**.**

Exploration activity in the remaining onshore Otway Basin permits is minimal. While permit tenure is being maintained by geological and geophysical work, no drilling activity is expected in the next twelve months.

Exploration Leverage

Table 2 shows the potential value to Essential of successful drilling in the two onshore wells, Cowrie and Pritchard, as well as the offshore Fermat prospect. It also shows the potential share price leverage in the case of success.

While we consider the onshore Pritchard prospect to be of higher risk, it should be noted that the current economics of small onshore oil discoveries provide a corresponding high reward.

Table 2. Exploration Leverage

Prospect	Gross Value	% interest	Net value	Value per share	Leverage*
	$m		**$m**	**$**	
Pritchard	265.0	50.0%	132.5	0.84	851%
Cowrie	42.5	20.0%	8.5	0.05	55%
Fermat	300.0	32.5%	97.5	0.62	626%

**leverage = ((current share price + value per share)/current share price)-1*

Financial

Essential's quarterly report for the three months ending 30 June 2005 indicated the company had cash resources of $3.2 million.

To fund the company through the drilling of Cowrie, Pritchard, Fermat and a VIC/P50 well, farmouts will be required for the latter three wells. This introduces an element of financial risk to the company in addition to technical risk. We believe these farmouts can be achieved, however, particularly in the offshore permit VIC/P46. The success of gas exploration in the offshore Otway Basin in the past three years has been significant with the discovery of Geographe, Thylacine and Casino gas fields, and highlighted again recently by the Henry gas discovery to the east.

Risk and Expected Monetary Value (EMV)

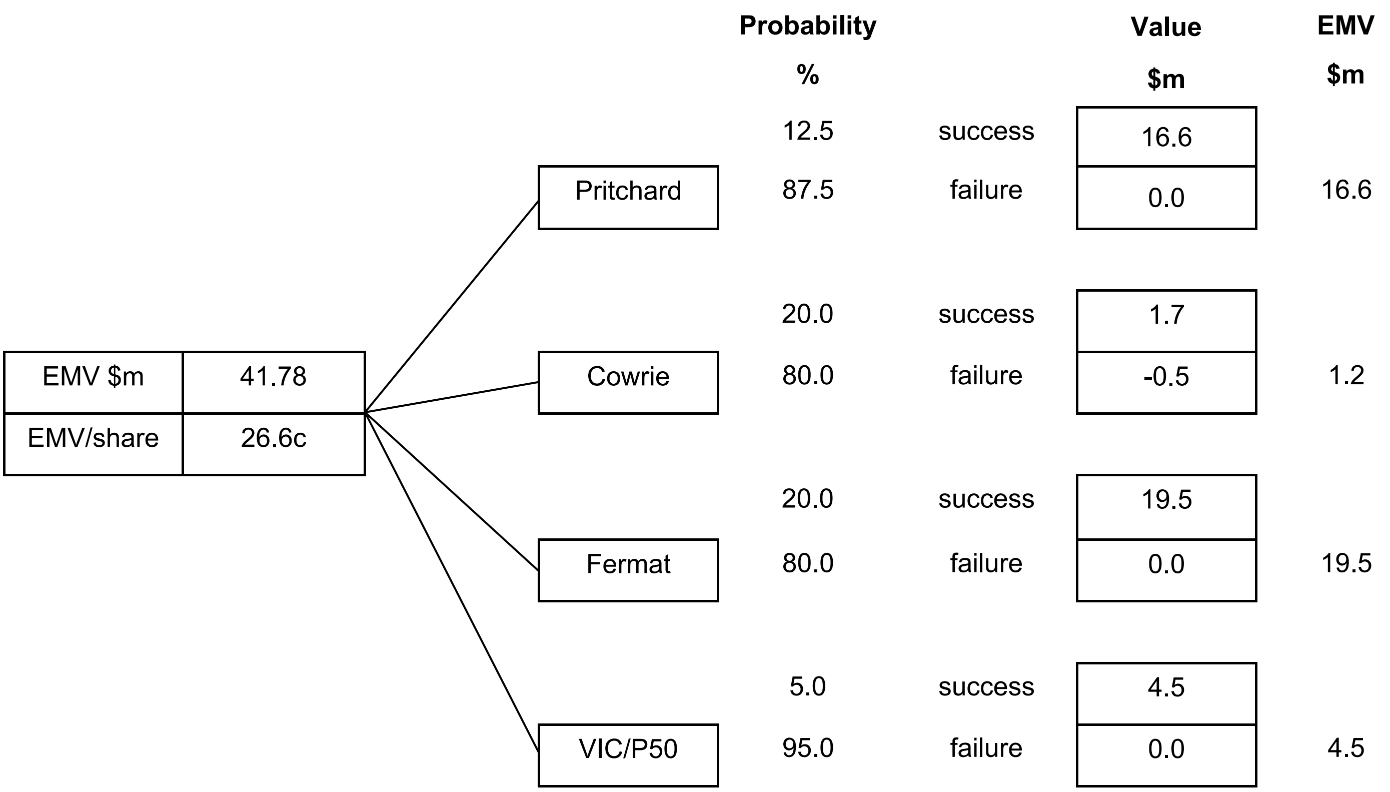
A standard oil industry approach to the risk assessment of drilling, is to calculate the Expected Monetary Value (EMV) of a prospect. This is the sum of the value of a successful outcome (discovery) and the value of an unsuccessful outcome (dry hole), under the assumed probability of success (POS).

An EMV less than zero would indicate that a prospect is not worth drilling but consistently drilling wells with positive EMVs should return a profitable outcome. Drilling only the highest EMV prospects maximises returns.

We have calculated EMVs on Essential's prospects and potential prospects, and show them in Figure 5. The successful outcome values are based on our discounted cash flow models, and our perception of exploration risk. The failure costs are based on Essential's cost assuming that farmouts ***are*** achieved for Pritchard, Fermat and for VIC/P50. All prospects have positive EMVs, and the sum of the EMVs is $42 million or 27 cents per share.

We are not stating that this is the market value of Essential shares but it does give an indication of exploration value under the assumption that farmouts are achieved, and a VIC/P50 prospect is firmed for drilling.

Figure 5. EMV for Essential Petroleum prospects



Disclaimer

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