



## ASX Announcement

Company Announcements Office  
Australian Securities Exchange

**By e-lodgement**

**29 May 2012**

**(ASX Code GRK)**

### **Backreef-1 Production Test Update: Oil Discovery**

Please find attached an announcement by Oil Basins Limited (**ASX:OBL**), as Operator of the Backreef Area, providing an update on the cased hole production testing operations at the Backreef-1 well.

Green Rock Energy Limited holds beneficial rights to a 20% joint venture interest in the Backreef Area.

A handwritten signature in black ink, appearing to read "Nigel Hodder", with a horizontal line underneath.

Nigel Hodder  
Company Secretary

**Investors and Media** T: +61 (0) 9482 0482 E: [info@greenrock.com.au](mailto:info@greenrock.com.au)

#### ***About Green Rock Energy Limited***

Listed on the ASX in 2005, Green Rock (GRK) is a geothermal and hydrocarbons explorer and developer with geothermal interests in Western Australia, South Australia and Hungary and hydrocarbons interests in Western Australia. Its key projects are:

- A 15% interest in EP417 in the Canning Basin with a right to earn up to 20% through a farm-in agreement with New Standard Energy (NSE) together with an Area of Mutual Interest Agreement for other potential opportunities including the Seven Lakes Special Prospecting Area awarded to NSE
- The beneficial right to a 20% JV interest in the Backreef Area in the Canning Basin operated by Oil Basins Limited (OBL)
- An alliance with leading Australian renewable power developer Pacific Hydro for conventional geothermal power generation in GRK's permits in the Mid West of WA and GRK's and Pacific Hydro's licences in the Great Artesian Basin in SA
- A joint venture with MOL in Hungary for geothermal power generation (GRK 50%)

## **ABOUT OIL BASINS LIMITED (OBL)**

OBL is involved in exploration and development of oil and gas in the offshore Gippsland Basin, Victoria, the onshore Canning Basin of Western Australia and the offshore Carnarvon Basin, Western Australia.

Presently, the Company's portfolio includes:

- 12.5% Rights to Vic/P41 situated in offshore Gippsland Basin,
- 17% interest in Vic/P66 situated in offshore Gippsland Basin,
- 100% Beneficial Rights and operator Backreef Area, onshore Canning Basin
- 50% interest in EP5/07-8 situated in onshore Canning Basin (designated operator CSG and USG).
- 100% interest and operator R3 situated in offshore Carnarvon Basin

OBL regularly performs inhouse and external geological and geotechnical assessments of oil and gas sector farmin, investment and acquisition opportunities and remains interested in expanding its portfolio in both upstream and downstream opportunities within Australia and internationally.



29 May 2012

ASX Markets Announcements  
Australian Stock Exchange Limited  
10<sup>th</sup> Floor, 20 Bond Street  
Sydney NSW 2000

Dear Sirs

## ***BACKREEF-1 - OIL DISCOVERY***

### ***KEY POINTS:***

- The Backreef Area Joint Venture has delineated a new highly productive reservoir within the hitherto non-commercially prospective Devonian aged Gumhole dolomite formation. This new oil reservoir play has the following calculated attractive reservoir characteristics:
  - permeability circa 750 millidarcy
  - porosity 17%
  - flow productivity > 1,000 bpd
  - thickness circa 6m and depth below surface 750m to 1,000m
- After the production test, 'live oil' samples were collected at surface from the Gumhole dolomite.
- Indications are that the Gumhole dolomite has potential commercial productivity. If a better sited well location up-dip from Backreef-1 can be delineated fully charged with oil, it may lead to a company-maker opportunity for Oil Basins Limited.
- Previously, the Backreef Area Joint venture has announced (pre-Test) that the significant undiscovered potential wholly within this new oil play zone has been defined, with a mapped oil in place (OIP) volume of between 45.6 to 117 MMbbls, with an expectation of 77.7 MMbbls and a mean estimate of 20.6 MMbbls prospective recoverable resources.

### ***ASX & MEDIA ANNOUNCEMENT***

Oil Basins Limited (ASX codes **OBL**, **OBLOA** and **OBLOB** or the Company) wishes to make the following announcement so as to keep the market fully informed.

The Company, as operator on behalf of the Backreef Joint Venture – OBL group net 80% and Green Rock Energy Limited (ASX code **GRK**) group net 20%\*, provides the following update on cased hole production testing operations at the Backreef-1 well.

*Note: \*Subject to stakeholder approvals and consents.*

## **NEW OIL DISCOVERY WITHIN GUMHOLE FORMATION – BACKREEF-1**

### **Production Test Results: Zone 1 Gumhole Formation**

Following underbalanced perforation of the 4m interval 957m to 961mRT (**Zone 1**) observed surface pressure build-up was rapid to 364 psig and over 800m influx (approximately 12 bbls) was observed in test string on subsequent pressure gradient survey. The gradient survey indicated mostly water.

Evident initial flow rates were recorded in excess of 1000 bpd with permeability estimated at 750 millidarcy.

Downhole build-up was for a period of 2 hours and upon opening the tool downhole and although flow was indicated, no liquid flowed to surface.

After reverse circulation, the packer was unseated. Oil was observed at the surface of the well.

Two oil samples were collected before the packer was pulled. Additional oil was observed in the well after the packer was pulled out of hole and another sample was taken. Total oil collected amounted to circa 0.2 litres (Note - after packer tool was released and tubing string flushed).

All oil samples and formation water samples will be sent to the laboratory for further assay analysis. In addition, oil traces were observed in the reversed formation fluid. The collected oil appears to be very light and of similar qualities to the structurally down dip Blina Oil Field, some 7km to the west. The formation water included clean-up mud filtrate evidently lost during the drilling of this highly permeable zone.

### **Production Test Results: Zone 2 Yellow Drum Formation**

Following underbalanced perforation of the upper 22m interval between 918m to 940mRT (**Zone 2**) observed surface pressure build-up was slow to 167.5 psig and initial test string influx was observed to 730mRT, upon subsequent pressure gradient survey. The gradient survey indicted a fresh water hydrostatic column. Evident permeability at between 0.1 to 10mD. Upon opening the downhole tool and after over 4 hours of swabbing operations, the height of the influx increased to 517mRT.

After reverse circulation, the packer was unseated but no traces of oil were observed at the surface. Water samples were taken for further laboratory analysis.

The well has now been suspended and the Australian Drilling Services Rig#2 was released at midday 27 May 2012.

Commenting on these results, OBL's Executive Director and CEO Neil Doyle said:

*"The Backreef Oil Discovery is the first new potentially significant oil find within Production Licence L6 since the discovery of the Blina Oil Field in 1981 by Canadian explorer Home Oil and the first potentially producible oil observed in the Gumhole dolomite formation.*

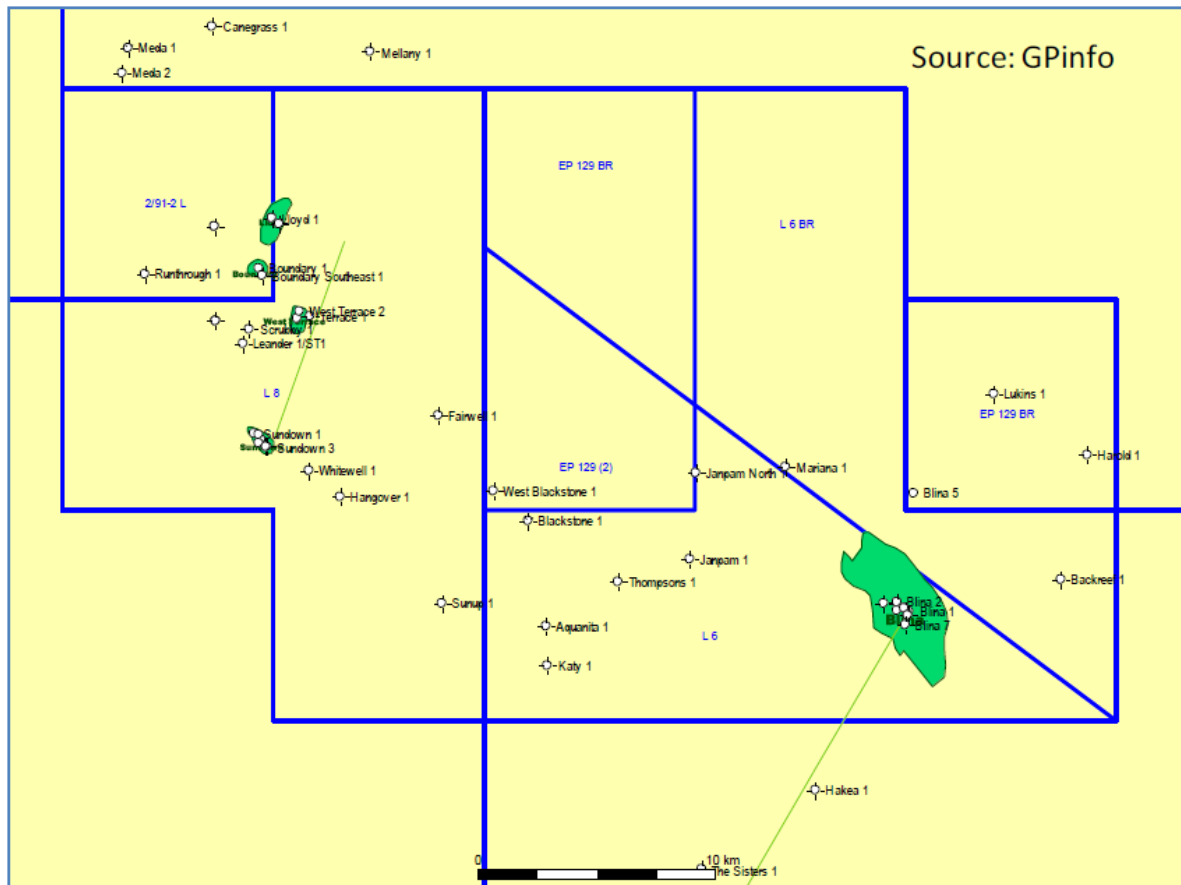
*The Gumhole dolomite has evident potential commercial productivity and if we can find better sited well locations up-dip from Backreef-1 with that Gumhole full of oil, it'll be a serious company-maker.*

*The oil discovery in the Gumhole completely justifies OBL's faith in the application of the Company's uniquely innovative approach to digitising and reprocessing vintage 2D seismic and the use of PSTM and PSDM techniques to this newly reprocessed vintage data".*

As previously stated by OBL to the ASX on 7 May 2012 (pre-Test), if the lower test in the Gumhole Formation recovers hydrocarbons, the result will be consistent with the Backreef Oil Pool contingent resource estimate determined by the earlier RPS Energy (RPS) independent resource evaluation report released on 24 November 2011.

RPS's evaluation of the interval 917 to 994mRT within Backreef-1 found the major pay accumulation (6.8m) was centred between 956.7m to 963.5m MD and specifically cautioned that the potential

hydrocarbons are reservoir within layers of dolomitised carbonates with good indicated porosity but likely low permeability. Adopting (pre-Test) a relatively 'low' permeability analogue as evident from the nearby Blina Yellow Drum formation, RPS concluded for a 6m thick regionally extensive dolomitised reservoir the following:



**Figure 1**  
Oil Accumulations in the Vicinity of the Permit Area

AGE	FORMATION	LENNARD SHELF					
		Blina	Sundown	West Terrace	Lloyd	West Kora	Boundary
MESOZOIC							
M.-L. Permian	LIVERINGA						
M. Permian	NOONKANBAH						
E.-M. Permian	POOLE						
L. Carb - Permian	GRANT		OIL	OIL			OIL
M. Carboniferous	ANDERSON		OIL		OIL	OIL	
E. Carboniferous	LAUREL /YELLOW DRUM	OIL					
L. Devonian	NULLARA	OIL					
L. Devonian	NAPIER / BABRONGAN						
M.-L. Devonian	PILLARA / GOGO						
M.-L. Devonian	MELLINJERIE						
M. Devonian	POULTON						
E.-M. Devonian	TANDALGOO						
Silurian - E. Devonian	CARRIBUDDY						
M. Ordovician	NITA						
M. Ordovician	GOLDWYER						
E.-M. Ordovician	WILLARA						
E. Ordovician	NAMBEET						

**Figure 2**  
Commercial Hydrocarbon Accumulations, Western Fitzroy Trough, Canning Basin, source RPS

- Reservoir quality would need to be demonstrated by a test at Backreef-1.
- Oil production or oil samples will need to be obtained at Backreef-1.
- The assumed permeable dolomitic reservoir would need to be demonstrated at Backreef-1.
- Oil charge is expected to most likely occur from the southwest, and the leads are positioned updip from Blina.
- Seal should be provided by intra-formational permeability changes, and ultimately by marls in the lower Laurel Formation.
- The Kimberley Downs Embayment feature contained within of the Backreef Area could host a significant undiscovered potential Oil in Place (OIP) volume of between 45.6 to 117 MMbbls with an expectation of 77.7 MMbbls and a mean estimate of 20.6 MMbbls prospective recoverable resources.
- The Resource estimates were in accordance with standard petroleum engineering techniques and using the March 2007 SPE/WPC/AAPG/SPEE Petroleum Resources Management System (PRMS).

A total of eight (8) Leads have been independently derived by RPS within the Kimberley Downs Embayment feature in the southern and south-eastern portions of the Company's Backreef Area.

- RPS also indicated that Backreef-1 was possibly sited within or very close to their observed oil water contact (which is clearly evident in the Backreef-1 production test result of Zone 1) and this distinct possibility was also canvassed "pre-Test" in the OBL ASX Release on 7 May that if this occurred the geological interpretation could be that Backreef-1 drilled the reservoirs just below the field oil/water contact, possibly within the transition zone between the oil column and the underlying water.
- Successful recovery of oil from a future Backreef-1 well test will de-risk the charge and reservoir risk in the Backreef Lead, and reduce these risks in the other identified Leads. It would not de-risk the structural risk, as this would require additional seismic or well penetrations.

As previously stated (pre-Test) on 7 May 2012 interpretation could be that Backreef-1 drilled the reservoirs just below the field oil/water contact, possibly within the transition zone between the oil column and the underlying water.

OBL as operator of the Backreef Area, as permitted under the WA Petroleum and Geothermal Energy Resources Act 1967 ("the Act") and on behalf of the Backreef Area Joint Venture (OBL group 80% / GRK group 20%), has sought to notify the Backreef Oil Discovery (under the meaning of the Act) to the WA Minister of Mines and Petroleum and, with the detailed mapping of the extent of the new oil play within the Gumhole already completed, will take steps to seek the immediate recognition of a Location over the entire Backreef Area as the first step towards the application for a new production licence.

Yours faithfully



Neil Doyle SPE  
Director & CEO

## DISCLAIMER

The technical information quoted has been compiled and / or assessed by Mr Geoff Geary who is a professional geologist (Bachelor Science – Geology) with over 32 years standing and who is also a Member of Petroleum Exploration Society of Australia. Mr Geary has consented to the inclusion of the technical assessment in this ASX announcement. Investors are reminded at all times refer to the appropriate OBL ASX Releases and the information in the form and context in which they originally appear and in particular to the review the risk sections of the RPS expert report.

## GLOSSARY & PETROLEUM UNITS

M	Thousand
MM	Million
B	Billion
bbl	Barrel of crude oil (i.e. 159 litres)
PJ	Peta Joule (1,000 Tera Joules (TJ))
Bcf	Billion cubic feet
Tcf	Trillion cubic feet (i.e. 1,000 Bcf)
BOE <sub>6</sub>	Barrel of crude oil equivalent – commonly defined as 1 TJ equates to circa 158 BOE – approximately equivalent to 1 barrel of crude equating to 6,000 Bcf dry methane on an energy equivalent basis
PSTM	Pre-stack time migration – reprocessing method used with seismic.
PSDM	Pre-stack depth migration – reprocessing method used with seismic converting time into depth.
AVO	Amplitude versus Offset, enhancing statistical processing method used with 3D seismic.
TWT	Two-way time
FMT	Formation testing (pressure & sampling) tool
TD	Total depth
GIP	Gas in Place
RT	Relative to rotary turntable
OWC	Oil water contact
STOIIP	Stock tank oil in place (stabilised crude at atmospheric conditions) – also commonly referred to as Oil in Place (OIP)
Sw <sub>irr</sub>	Irreducible water saturation