



# OIL BASINS LIMITED

ABN 56 006 024 764

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

Dear Sirs

## ***PERMIT EP487 (DERBY BLOCK) UPDATE INCREASE IN PROSPECTIVE POTENTIAL RECOVERABLE RESOURCES***

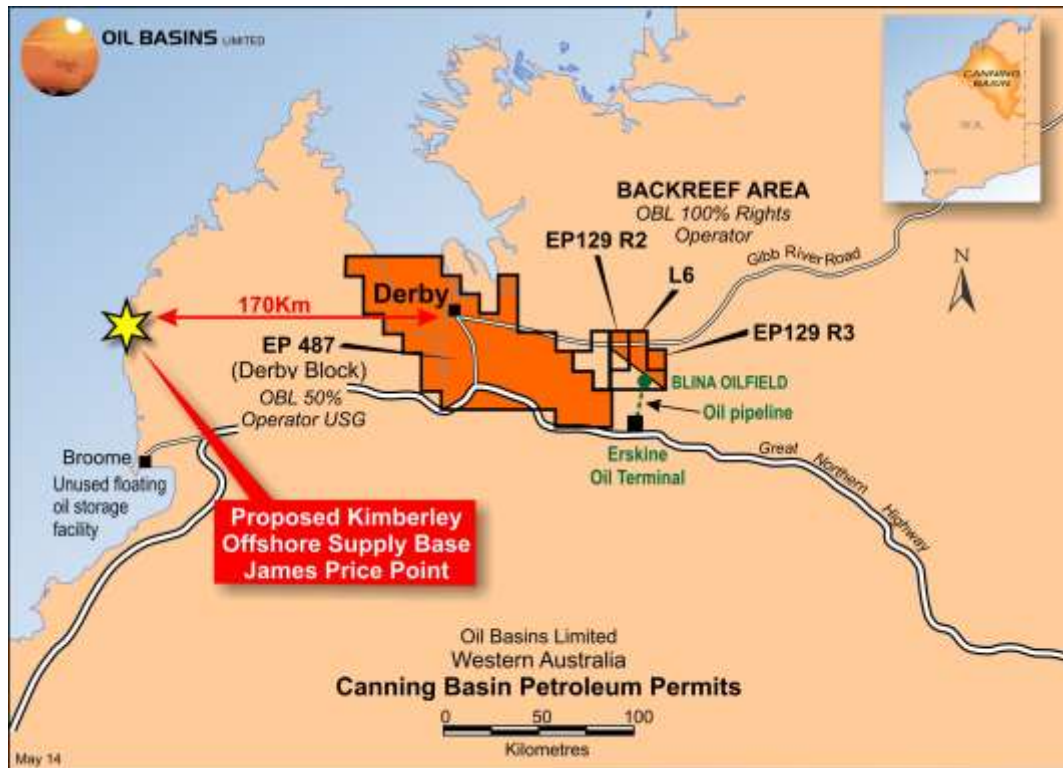
### **HIGHLIGHTS**

- OBL as operator of WA onshore Permit EP487 Derby Block has recently completed new mapping and depth conversion of the New Unconventional Wet Laurel Tight Basin Centred Gas (BCG) Play earlier presented to shareholders at the OBL AGM on 30 November 2015 – refer to ASX release 30 November 2015.
- Based upon this new OBL mapping, and all available public file data on nearby Tight BCG wells, a preliminary independent resources assessment has been conducted by 3D-GEO Pty Ltd on the unconventional and tight resources potential of the newly mapped play.
- Preliminary results confirms a significant 31.6% increase in gross potential prospective recoverable P50 resources to 24.6 Tcf within the eastern onshore portion of Permit EP487 (corresponding gross potential prospective recoverable P50 condensate volumes increase by 32.9% to 614 MMbbls).
- In addition, deeper Laurel Basal Shale gross prospective potential recoverable P50 resources down to 5000m have also been mapped and assessed at an additional 4.1Tcf and 103.7 MMbbls of associated condensate.
- Indicating that the overall gross prospective potential recoverable P50 resources down to 5000m within the onshore eastern portion of the Derby Block is now independently assessed at 28.7 Tcf and 717.7 MMbbls of associated condensate.
- All prospective potential recoverable resources have been independently determined in accordance with SPE PRMS (2011) guidelines.
- A full summary report will be released in a subsequent OBL ASX Release once finalised.

## Permit EP487 (Derby Block) Update

The Directors of Oil Basins Limited (ASX code **OBL**, or the **Company**) are pleased to make the following update on the Company's 50% owned and operated onshore Permit EP487 (Derby Block) as a matter of record.

### Location



**Figure 1**  
Permit EP487

The Derby Block is very large and has an area of 5,063 sqkm (circa 1,251,095 acres).

### Ownership

OBL – 50% Interest

Oil Basin Royalties Pty Limited - effectively 2% Over-riding Royalty Interest

Rey Lennard Shelf Pty Ltd – 50% Interest

Backreef Oil Pty Limited – effectively 0.5% Over-riding Royalty Interest

### Derby Block Key Attributes

- OBL holds 50% on title and operator Derby Block
- Region of Fitzroy Trough ideally situated as hydrocarbon source / kitchen with marine shale sediments of right geological age (Devonian) based upon North American USG / USO experience.
- Nearby Derby township and significant support infrastructure (base hospital, airports and local sea terminal etc).

- Main prospective region is completely bounded to the west, north and south by all-weather bitumen highways and only five significant pastoralist landholders.
- Route of proposed new Great Northern Pipeline traverses permit in the south and will have Common Carrier access.
- Unique NNTT Award with potential significant long-term benefits (access / clearances) – once the award is finalised the determination ensures certainty for site access and clearances.
- Derby Block offers significant potential for future gas supply to both domestic and export gas projects.

***New OBL technical assessment of Derby Block.***

Despite having obtained environmental approvals in early September 2015 to shoot some 533.7km of new 2D seismic survey (which can still be rolled over into late 2016), with the inability to shoot seismic during 2015, OBL has lodged a significant work program variation with DMP on 24 September 2015 to replace 2D seismic in 2015 with 2 wells in 2016 (subject to prospectivity assessment of likely prospects).

OBL's new technical assessment was lodged with the DMP on 27 November 2015 and summarised in the ASX Release dated 30 November 2015.

The additional new work by the EP487 joint venture included:

- Reprocessing of circa 140km of vintage 2D and loading into comprehensive 3D-GEO mapping of Fitzroy Trough.
- Assessment and integration of the recent WA Geological Survey (2014) which was shot along main Broome to Derby Highway and Derby-Gibb River Road and was instrumental in tying all previous vintage 2D seismic to the earlier Buru Energy Bunda 3D Seismic (shot in 2009)

The new OBL mapping has delineated three new, significant and extensively developed Laurel Unconventional reservoir plays are newly defined in EP487 (Derby Block), namely:

- **Upper Laurel (Top Laurel) Clastic Marine (Meda-1, Yulleroo-1 to-4, East Yeeda-1, Valhalla/Paradise)**
- **Middle Laurel Carbonate and Delta (Blina, Backreef-1)**
- **Lower Laurel Clastic/Carbonate Delta (Wattle-1, Valhalla/Paradise)**

Of the three reservoir plays, the Middle and Lower Laurel Delta reservoir plays are most significant “new plays” in addition to the established “well defined Top Laurel BCG play”.

In addition underlying across the northern sector there is a newly mapped deeper (and higher risk) Basal Laurel Unconventional Shale unit at drillable depths which is assumed for mapping and assessment purposed down to 5000m. New interpretation by OBL of vintage seismic and recent new seismic suggests:

- Extensive development of deltaic cycles in the Middle and Lower Laurel, Late Devonian to Early Carboniferous sequences.
- These cycles (regressional, prograding parasequence sets) comprise classic delta topset and foreset clinoform geometries, prograding westward across the Fitzroy Graben from a re-entrant on the Lennard Shelf.

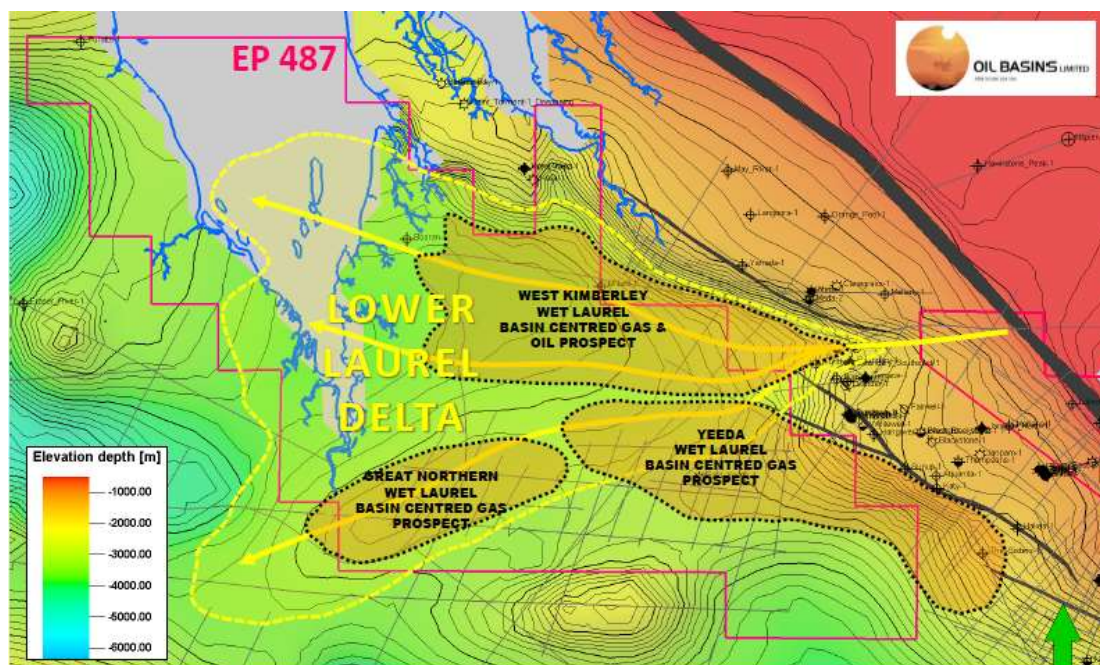
Three prospects have been delineated within EP487 (Derby Block) based on identification of the major reservoir play, thickness and depth of burial. All are Laurel plays defined as unconventional, Basin Centred Gas (**BCG**) stratigraphic plays and all have significant potential for condensate production, (ignoring the deeper Basal Laurel tight shale gas unit), namely:

- **West Kimberley Wet Laurel BCG and Oil Prospect** – This prospect is defined by the newly recognized Lower Laurel delta reservoir play, principally possible reservoir sands developed in delta topset and foreset sequences. The Upper and Middle Laurel also has potential.
- **Yeeda Wet Laurel BCG Prospect** – Principally an Upper Laurel reservoir play drilled by East Yeeda-1. Deeper potential in the Middle and Lower Laurel (> 3,500 m). Similar to the Yulleroo gas discovery and prognosed as an extension of the Valhalla / Paradise Wet Laurel BCG System (Buru Energy / Mitsubishi) to the east.
- **Great Northern Wet Laurel BCG Prospect** – similar to and possibly an extension of the Yeeda Laurel BCG Prospect with similarities to the Yulleroo Gas Field to the south west.

### ***Prospective Potential Recoverable Resources – Wet Laurel Basin Centred Gas***

The company's operated permit is a **potential new energy source** and with new mapping complete, early in January 2016 OBL contracted 3D-GEO Pty Ltd (3D-GEO) to conduct an Independent Expert assessment of the Basin Centred Wet Gas Potential of the new plays delineated by OBL. 3D-GEO had earlier in 2012 completed the remapping for the WA DMP for the entire Canning Basin in Petrel TM and based on that mapping had delineated gross potential recoverable P50 resources of 18.7 Tcf and 461.9 MMbbls associated condensate in accordance with SPE PRMS (2011) refer to OBL ASX Release 14 February 2013.

The onshore eastern portion of EP487 (completely outside the 2013 declared West Kimberley Wilderness Reservation) was the focus of the independent study by 3D-GEO with gross recoverable resources assessed in accordance with SPE PRMS (2011) and based upon parameters based upon on US Bakken well correlations and specific public available calibration information (petrophysical analysis and assessment of well logs and completion reports and seismic) of the derby Block vintage East Yeeda-1 well and modern nearby BCG correlation wells at Yulleroo-3 and -4, Paradise-1, Valhalla-2, Valhalla North-1 and Asgard-1 as at 13 February 2013 (ie no access to nearby fracking (fracking) production test results at Valhalla North-1 and Asgard-1 which presently remain confidential).



**Figure 2**  
 New OBL Mapping Eastern Onshore Section of Permit EP487 (Derby Block)  
 OBL ASX Release dated 30 November 2015

Without access to the fracking performance of Valhalla North-1 and Asgard-1 but noting that Buru Energy Limited has indicated that a new resources/reserves update of their State Agreement Permits is imminent, 3D-GEO's **preliminary assessment** of the gross prospective potential recoverable resources in accordance SPE PRMS (2011) of the newly mapped OBL Wet Laurel BCG play is as follows:

Permit EP487 Onshore Eastern Portion	Prospective Resources SPE PRMS (2011)			
	Product	P90	P50	P10
Gas-in-Place Tcf	56.9	142.1	346.5	180.3
Recoverable Gas Tcf	8.5	24.6	71.2	34.3
Recoverable Condensate MMbbl	203.7	614	1815	868
Recoverable BOE (MMBOE)	1,583	4,579	13,268	6,390

**Table 1**  
 Preliminary Assessment of EP487  
 Gross prospective potential recoverable resources (3D-GEO January 2016)

The gross estimated recoverable volumes of prospective resources for the onshore for the Laurel USG/USO, with mapped potential prospective resources mostly bounded by the

bitumen road infrastructure and all within existing pastoralist leases (Figure 1) as determined by 3D-GEO, are summarised in the Table above.

The gross estimated recoverable volumes of prospective resources for the onshore portion of the Derby Block for the Laurel USG/USO, as determined by 3D-Geo, are summarised in the table above. These volumes have been totalled **without the Basal Shale** (which are **P90 / P50 / P10** estimated as an additional gross **1.575 / 4.165 / 10.965 Tcf** and an additional gross **37.8 / 103.7 / 279.4 MMbbls** recoverable prospective resources at the 5000m depth cut-off – it is noted that modern compliant rigs of 5500 depth rating capacity are presently stacked in WA) and which occurs mostly below the West Kimberley Prospect.

The P90/P50 estimates above only consider prospective Laurel sequence at depths 2,500m to 5,000m measured depth; P10 estimates assume an additional 10% of prospective Laurel section.

**Impact:**

3D-GEO's preliminary assessment (without the benefit of the publication of the fracking production test results of nearby BCG wells) indicates the following:

- **The new gross prospective potential recoverable P90 resources assessment of 8.5 Tcf represents a 77.1% uplift from the corresponding earlier 4.8 Tcf assessment pre-grant in February 2013.**
- **Corresponding gross associated condensate volumes increase by 73.5% to 203.5 MMbbls.**
- **The new gross prospective potential recoverable P50 resources assessment of 24.6 Tcf represents a 31.6% uplift from the corresponding earlier 18.7 Tcf assessment pre-grant in February 2013.**
- **Corresponding gross associated condensate volumes increase by 32.9% to 614 MMbbls.**
- Both the new gross prospective potential recoverable P10 estimated at 71.2 Tcf and gross mean resources assessment of 34.3 Tcf are overall similar (ie up marginally by 3.5% and 9.9% respectively) to the earlier pre-grant assessment as of February 2013 as both of these assessments assume a 5000m cut-off.
- Corresponding gross associated condensate volumes increase by 1.7% and 8.3% respectively to 1,815 MMbbls and 868 MMbbls respectively (for reasons as stated earlier).
- Deeper additional Laurel Basal Shale gross prospective potential recoverable P50 resources down to 5000m have also been mapped and assessed at an additional 4.1Tcf and 103.7 MMbbls of associated condensate.

Yours faithfully



Neil Doyle SPE  
Director & CEO

## **ABOUT OIL BASINS LIMITED**

Oil Basins Limited (ASX code: **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.

## **ABOUT 3D-GEO PTY LTD**

3D-GEO Pty Ltd is a seismic and structural modeling consultancy based in Melbourne, Australia. With a collaborative mixture of petroleum industry experience and academic rigour, 3D-GEO provides innovative solutions to a broad range of clients across the Australasia region and the Middle East. 3D-GEO has extensive exploration experience in fold and thrust belt structural analysis, as well as demonstrated expertise in the extensional basins of Austral-Asia and the Sub-continent.

## **COMPETENT PERSON STATEMENT**

Information on the Reserves and Resources in this release is based on an independent evaluation conducted by 3D-Geo Pty Ltd (3D-GEO). 3D-GEO is a Melbourne-based private consultancy. The work was undertaken by a team of petroleum engineers, reservoir engineers, geoscientists and petrophysicists and is based on data supplied by OBL. The technical assessment was performed primarily by Dr David Briguglio, BSc (Hons), PhD Senior Associate. Dr David Briguglio has highly developed geotechnical and software skills fostered through a series of industry sponsored academic studies, past experience with petroleum operators and current employment with consulting firm 3D-GEO. Since mid-2010, he has been working as an exploration geoscientist with consulting firm 3D-GEO, where he has been responsible for conducting and managing projects involving exploration for petroleum, geothermal and Carbon Capture and Storage (CCS) for clients all over the world. Dr Briguglio was under the supervision of Mr Hadi Nourollah, Director 3D-GEO. Mr Nourollah holds the qualification MSc (Petroleum Geoscience) from Imperial College London, has over 13 years of experience as a geophysicist and is an active Member of Society of Exploration Geophysicists (SEG). 3D-GEO's approach has been to review the data supplied by OBL for reasonableness and then independently estimate ranges of in-place and recoverable volumes. They estimated the degree of uncertainty inherent in the measurements and interpretation of the data and have calculated a range of recoverable volumes, based on predicted field performance for the property and Bakken shale analogues in the Petrel™ software packages. 3D-GEO, Dr Briguglio and Mr Nourollah have given their consent at the date of the release to the inclusion of this statement and the information in the form and context in which they appear in this release.

## **DISCLAIMER – GENERAL**

Prospective Resources are those quantities of petroleum which are estimated, on a given date, to be potentially recoverable from undiscovered accumulations. Investors should not infer that because “prospective resources” are referred to that oil and gas necessarily exist within the prospects. An equally valid outcome in relation to each of the Company's prospects is that no oil or gas will be discovered.

Technical Reserves in this preliminary assessment are considered similar to the definition of Contingent Resources (i.e. Low Estimate and High Estimate) with the following important caveat - it must be appreciated that the risked volumes as reported in terms of undeveloped Contingent Resources and Prospective Resources are risk assessed only in the context of applying ‘Geological Chance of Success’. This degree of risk assessment does not incorporate the considerations of economic uncertainty and commerciality and consequently no future development as such can be assured.

The technical resources information quoted has been compiled and/or assessed by Company Director Mr Neil Doyle (from a number of sources) who is a professional engineer (BEng, MEngSc - Geomechanics) with over 34 years standing and a continuous Member of the Society of Petroleum Engineers since 1981 (SPE 30 Year Club Member) and by Mr Geoff Geary who is a professional geologist (BSc – Geology) with over 32 years standing and who is also a Member of the Petroleum Exploration Society of Australia. Both Mr Doyle and Mr Geary have consented to the inclusion in this announcement of the matters based on the information in the form and context in which they appear. Investors should review the ASX materials and independent expert reports previously quoted and the important definitions and disclaimers attached.

## **APPLICABLE RESERVES & RESOURCES REPORTING GUIDELINES & DEFINED TERMS**

In the determination and classification of Reserves and Resources, Oil Basins Limited applies the Society of Petroleum Engineers Petroleum Resources Management System (**PRMS Guidelines**). The terms “Contingent Resources” and “Prospective Resources” used in this release are as defined by the PRMS Guidelines (relevant extracts as provided below):

### **PROVED RESERVES**

Proved Reserves are those quantities of petroleum, which by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under defined economic conditions, operating methods, and government regulations.

If deterministic methods are used, the term reasonable certainty is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate. The area of the reservoir considered as Proved includes:

- the area delineated by drilling and defined by fluid contacts, if any, and
- adjacent undrilled portions of the reservoir that can reasonably be judged as continuous with it and commercially productive on the basis of available geoscience and engineering data.

Often referred to a P1, sometime referred to as “proven” or “Proved”.

### **PROBABLE RESERVES**

Probable Reserves are those additional Reserves which analysis of geoscience and engineering data indicate are less likely to be recovered than Proved Reserves but more certain to be recovered than Possible Reserves.

It is equally likely that actual remaining quantities recovered will be greater than or less than the sum of the estimated Proved plus Probable Reserves (2P). In this context, when probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the 2P estimate. Probable Reserves may be assigned to areas of a reservoir adjacent to Proved where data control or interpretations of available data are less certain. The interpreted reservoir continuity may not meet the reasonable certainty criteria. Probable estimates also include incremental recoveries associated with project recovery efficiencies beyond that assumed for Proved.



## POSSIBLE RESOURCES

Possible Reserves are those additional Reserves which analysis of geoscience and engineering data indicate are less likely to be recoverable than Probable Reserves

The total quantities ultimately recovered from the project have a low probability to exceed the sum of Proved plus Probable plus Possible (3P), which is equivalent to the high estimate scenario. When probabilistic methods are used, there should be at least a 10% probability that the actual quantities recovered will equal or exceed the 3P estimate. Possible Reserves may be assigned to areas of a reservoir adjacent to Probable where data control and interpretations of available data are progressively less certain. Frequently, this may be in areas where geoscience and engineering data are unable to clearly define the area and vertical reservoir limits of commercial production from the reservoir by a defined project. Possible estimates also include incremental quantities associated with project recovery efficiencies beyond that assumed for Probable.

## CONTINGENT RESOURCES

Those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations by application of development projects, but which are not currently considered to be commercially recoverable due to one or more contingencies. Contingent Resources are a class of discovered recoverable resources.

Contingent Resources may include, for example, projects for which there are currently no viable markets, or where commercial recovery is dependent on technology under development, or where evaluation of the accumulation is insufficient to clearly assess commerciality. Contingent Resources are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by their economic status.

## PROSPECTIVE RESOURCES

Those quantities of petroleum which are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations.

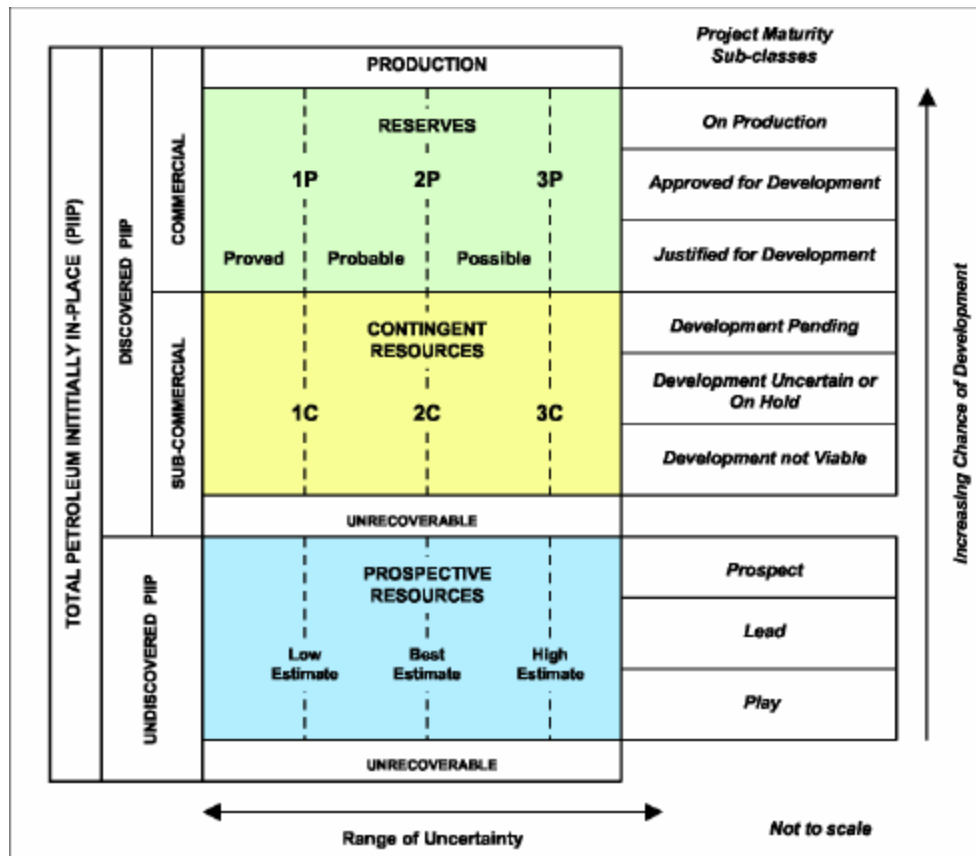
Potential accumulations are evaluated according to their chance of discovery and, assuming a discovery, the estimated quantities that would be recoverable under defined development projects. It is recognized that the development programs will be of significantly less detail and depend more heavily on analogue developments in the earlier phases of exploration.

**Prospect** – A project associated with a potential accumulation that is sufficiently well defined to represent a viable drilling target. Project activities are focused on assessing the chance of discovery and, assuming discovery, the range of potential recoverable quantities under a commercial development program.

**Lead** – A project associated with a potential accumulation that is currently poorly defined and requires more data acquisition and/or evaluation in order to be classified as a prospect. Project activities are focused on acquiring additional data and/or undertaking further evaluation designed to confirm whether or not the lead can be matured into a prospect. Such evaluation includes the assessment of the chance of discovery and, assuming discovery, the range of potential recovery under feasible development scenarios.

**Play** – A project associated with a prospective trend of potential prospects, but which requires more data acquisition and/or evaluation in order to define specific leads or prospects. Project activities are focused on acquiring additional data and/or undertaking

further evaluation designed to define specific leads or prospects for more detailed analysis of their chance of discovery and, assuming discovery, the range of potential recovery under hypothetical development scenarios.



## GLOSSARY & PETROLEUM UNITS

<b>M</b>	Thousand
<b>MM</b>	Million
<b>B</b>	Billion
<b>bbbl</b>	Barrel of crude oil (ie 159 litres)
<b>stb</b>	Stock tank barrel – barrel of stabilised crude oil at atmospheric pressure
<b>PJ</b>	Peta Joule (1,000 Tera Joules (TJ))
<b>Bcf</b>	Billion cubic feet
<b>Tcf</b>	Trillion cubic feet (i.e. 1,000 Bcf)
<b>BCG</b>	Basin Centred Gas
<b>Bscf</b>	Billion standard cubic feet (raw gas)
<b>BOE6</b>	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)
<b>PSTM</b>	Pre-stack time migration – reprocessing method used with seismic.
<b>PSDM</b>	Pre-stack depth migration – reprocessing method used with seismic converting time into depth.
<b>AVO</b>	Amplitude versus Offset, enhancing statistical processing method used with 3D seismic.
<b>TWT</b>	Two-way time
<b>USG</b>	Unconventional Shale Gas
<b>STOIIP</b>	Stock Tank Oil Initially In Place – stabilised crude at atmospheric pressure