



# EMPIRE ENERGY GROUP LIMITED



Presentation  
November 2017



# Disclaimer & Confidentiality

This presentation has been prepared by Empire Energy Group Limited (“Empire” or the “Company”). The information in this presentation is information of a general nature and is subject to change without notice. The information in this presentation does not purport to be complete, nor does it contain all of the information which would be required in a prospectus prepared in accordance with the requirements of the Corporations Act 2001 (Cth). It contains information in a summary form only and should be read in conjunction with Empire’s other periodic disclosure announcements to the ASX available at [www.asx.com.au](http://www.asx.com.au).

An investment in Empire shares is subject to known and unknown risks, many of which are beyond the ability of Empire to control or predict. These risks may include, for example, movements in oil and gas prices, a failure to acquire some or all of the targeted acreage, risks associated with the development and operation of the acreage, exchange rate fluctuations, an inability to obtain funding on acceptable terms or at all, loss of key personnel, an inability to obtain appropriate licences, permits and or/other approvals, inaccuracies in resource estimates, share market risks and changes in general economic conditions. Such risks may affect actual and future results of Empire and its shares.

This presentation contains statements, opinions, projections, forecasts, and other material (“forward looking statements”). These statements can be identified by the use of words like ‘anticipate’, ‘believe’, ‘intend’, ‘estimate’, ‘expect’, ‘may’, ‘plan’, ‘project’, ‘forecast’, ‘will’, ‘should’, ‘could’, ‘seek’ and other similar expressions. Forward looking statements may be based on assumptions which may or may not prove to be correct. None of Empire, its respective officers, employees, agents, advisers or any other person named in this presentation makes any representation as to the accuracy or likelihood of fulfilment of the forward looking statements or any of the assumptions upon which they are based and disclaim any obligation or undertaking to revise any forward looking statement, whether as a result of new information, future event or otherwise.

Maps and diagrams contained in this presentation are provided to assist with the identification and description of Empire’s lease holdings and Empire’s intended targets and potential exploration areas within those leases. The maps and diagrams may not be drawn to scale and Empire’s intended targets and exploration areas may change in the future.

All share price information is in Australian dollars (AU\$) and all other dollars values are in United States dollars (US\$) unless stated otherwise.

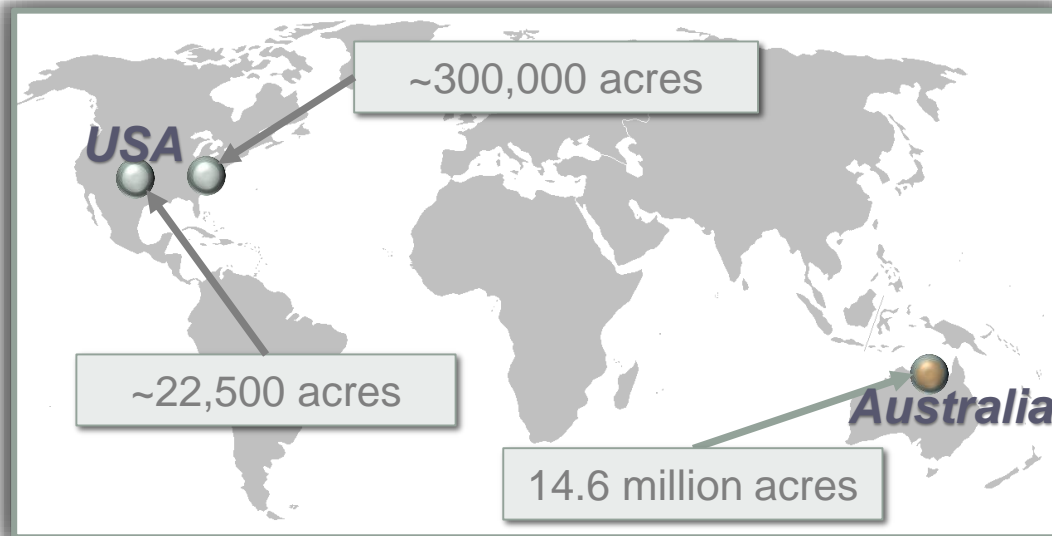
The information contained in this presentation does not take into account the investment objectives, financial situation or particular needs of any recipient and is not financial product advice. Before making an investment decision, recipients of this presentation should consider their own needs and situation and, if necessary, seek independent professional advice.

To the maximum extent permitted by law, Empire and its respective officers, employees, agents and advisers give no warranty, representation or guarantee as to the accuracy, completeness or reliability of the information contained in this presentation. Further, none of Empire nor its respective officers, employees, agents or advisers accept, to the extent permitted by law, responsibility for any loss, claim, damages, costs or expenses arising out of, or in connection with, the information contained in this presentation. Any recipient of this presentation should independently satisfy themselves as to the accuracy of all information contained herein.



1. Executive Summary
2. USA Assets
3. USA Growth Strategy
4. Australian Assets
5. Detailed Financials
6. Appendices

# Operations - Snap Shot



## Australia



100% owned subsidiary

### Conventional & unconventional oil & gas exploration

Prospective Resource P(50)

2.2 Billion Boe, or ~13 Tcfe

US\$175 million farm-out with American Energy Partners terminated early 2017.

Discussions with potential new partners.  
Northern Territory Government undertaking a fracking review

## USA



100% owned subsidiary

### Conventional oil & gas production

- NY, PA, KS, OK - 2P ~15.0 MMBoe

### Future unconventional development for farmout\*

- NY\* - 3P/Prospective Resource ~500 MMBoe

\* NY State fracking has been banned. Under future Governance this may change. Also current State guidelines concerning the use of frack energizers is unclear, as such propane gel fracks, nitrogen foam fracks etc may be acceptable.

**Prospective Resource** – ‘Those quantities of petroleum estimated, as at a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective resources have both an associated chance of discovery and chance of development.’



# Corporate - Snap Shot

## ASX:EEG

## OTC-QB:EEGNY

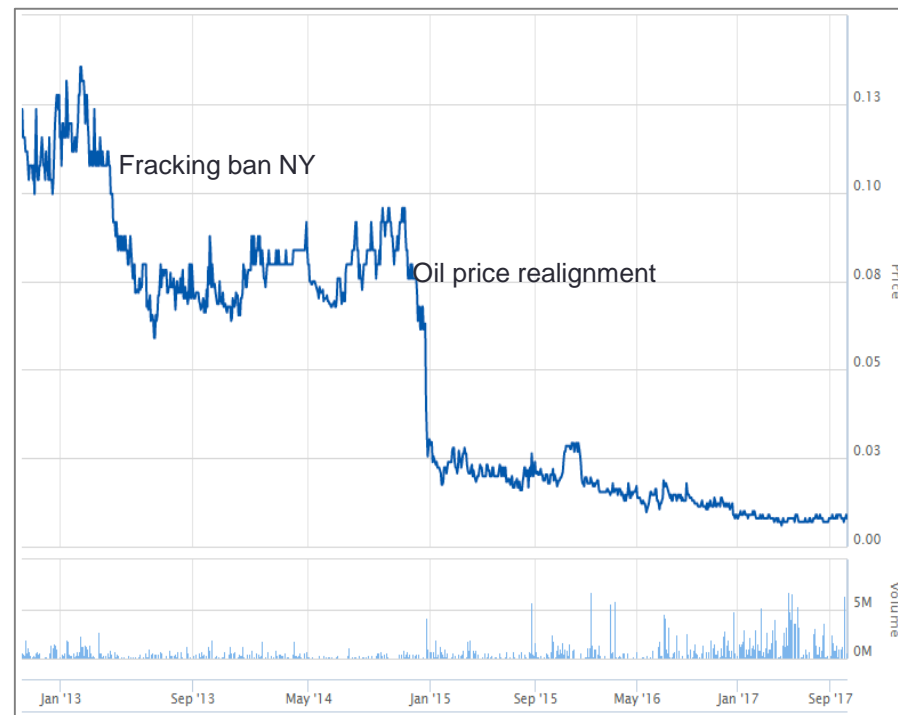
- Share Price = A\$0.008
- Mkt Cap<sup>(1)</sup> = US\$7.0mm
- EV = US\$43.0mm
- US EBITDA Est 2017) = US\$4.0mm
- Grp EBITDA (Est 2017) = US\$3.0mm
- 2P PV10 (Dec 2016) = US\$91.5mm
- 2P Reserves<sup>(3)</sup> = 14.0mmBoe
- EV/2P = \$3.07/Boe
- Reserves + Prospective Resources<sup>(2)</sup> = 2,584mmBoe
- Daily Production (Sept 2017) = ~1,200Boe/d
- Interest coverage (current) = 1.4x
- Credit Facility Availability<sup>(3)</sup> = US\$162mm

(1) AUD/USA = 0.7800

(2) Reserves & Resources: USA- Graves & Co Consulting, LLC; Pinnacle Energy Services, LLC; Australia:- Muir & Associates P/L

(3) Subject to headroom availability

(4) Financials as at Sept 2017



- Shares issued = 1,111 million
- Shareholders:
 

Global Energy & Resources Dev.	16.8%
Merit Glory Sdn Bhd	4.9%
Insiders	2.4%
Top 20% shareholders hold	50.9%
Total Shareholders	~2,736

Unless specified as A\$'s all dollar values are US\$

# History of value creation



			<b>PA - Sold Land for \$24.6mm</b>			<b>80% Farmout for \$75mm<sup>(1)</sup> + \$100mm<sup>(2)</sup></b>	
PA - gas \$8.2mm + Land \$1.1mm		NY & PA – gas & oil \$38mm	KS – oil \$56.6mm	<b>Assets too expensive, failing to meet acquisition metrics</b>	NY & KS – small bolt on	OK – Miss Lime acreage \$1.1mm	KS – agreement over 70,000ac
		NT Aust – 14.6mm ac shale \$5.5mm					
	Credit Facility - \$150mm	Credit Facility - increased to \$200mm	Max debt drawdown ~\$91.0mm				Debt drawdown ~\$40.0mm
<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011 - 2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>

<sup>(1)</sup> Farmout with American Energy Partners, LP not settled due to the death of Founder <sup>(2)</sup> Plus project financing provided for Phase 2. Refer to previous page



1. Executive Summary
- 2. USA Assets**
3. USA Growth Strategy
4. Australian Assets
5. Detailed Financials
6. Appendices

# USA Operations - Conventional

## Operator of all Mid-Con and Appalachia assets

- Current production ~1,200Boe/d.
- Stable cash flow with +2,000, slow decline, long life oil & gas wells.
- R/P ~14 years on PDP + PDNP.
- ~3,500 leases, 700 miles of pipeline, 14 compressor stations with 400 points of delivery; ~1,850 gas wells and ~220 oil wells; 48 employees & contractors.
- LOE+Taxes (Appalachia) ~\$1.60/Mcf.
- LOE+Taxes (Mid-Con) ~\$20.34/Bbl.

## Short Term Growth

- Acquisitions - USA onshore. Empire has monitored and bid on a number of high quality assets over the past 24 months.
- Access to additional equity capital is required for success.
- With existing assets:
  - KS: existing water-flood.
  - KS: +30 net PUD drill locations.
  - OK: +100 net drill locations.
  - KS: access to WI ~40% with 78sq miles of new 3D & est +100 gross drilling locations.



# USA – Proven Oil Field Development

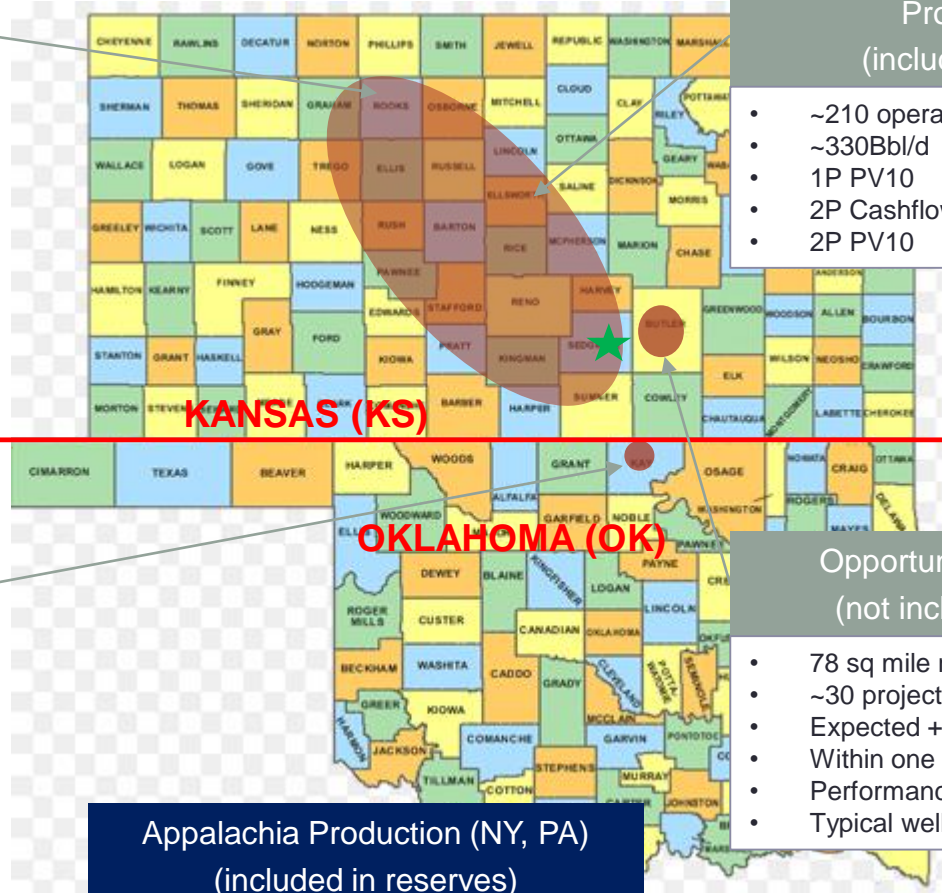


## Existing Puds (KS) (included in reserves)

- +30 Puds ready for drilling
- Puds based on 3D
- Waterflood project
- Performance based on type curve/s
- Average Return (see later section)
- Typical well (single) D&C \$240K

## Production (KS) (included in reserves)

- ~210 operating wells
- ~330Bbl/d
- 1P PV10 \$38.9mm
- 2P Cashflow \$93.5mm
- 2P PV10 \$41.8mm



★ MidCon region office

## Probable Development (OK) (included in reserves)

- +25 gross locations ready for drilling
- ~200 gross locations
- Limited 3D targets
- Performance based on type curve
- Typical well (single) D&C \$375K
  - Unlevered IRR 60%
  - ROI (undisc.) 3.6x
  - PV10 \$0.4mm
  - Payout 1.5 yrs

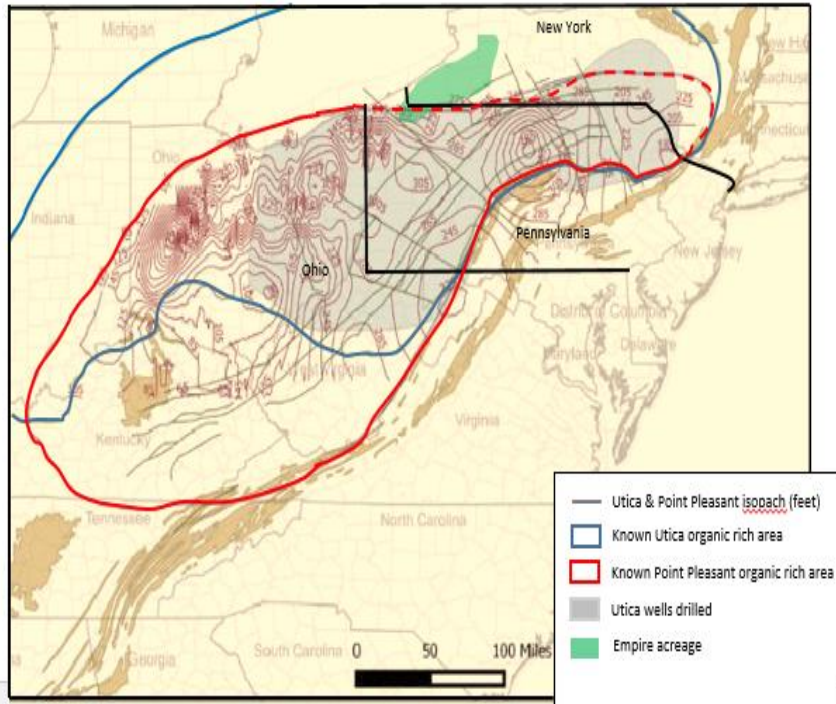
## Opportunity to Acquire (KS) (not included in reserves)

- 78 sq mile new 3D
- ~30 projects identified
- Expected +100 well locations
- Within one of largest oil regions in KS
- Performance based on type curve
- Typical well (single) D&C \$250K

## Appalachia Production (NY, PA) (included in reserves)

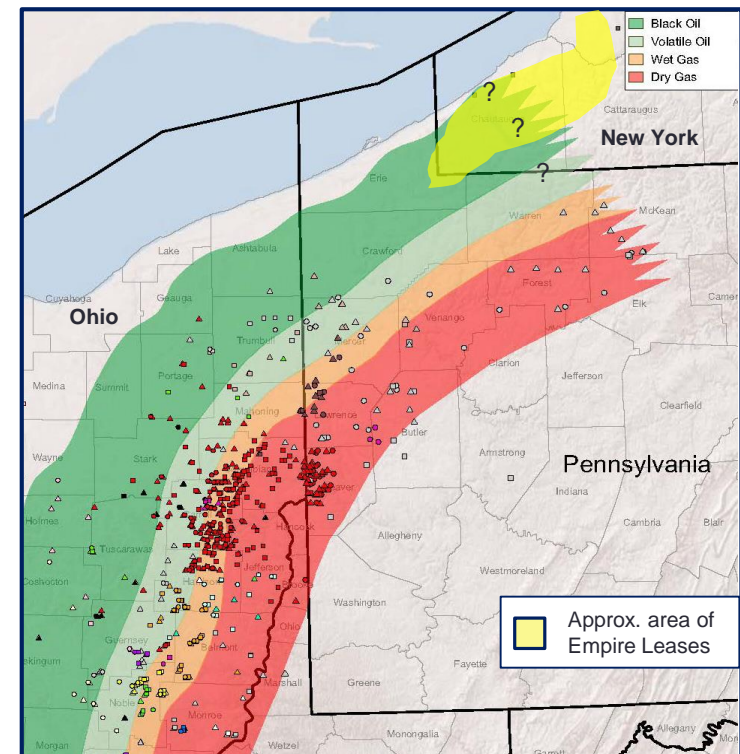
- Operations in Western NY & PA
- ~1,800 operating wells
- ~4,700mcf/d (785boe/d)
- No development/drilling planned
- 1P PV10 \$17.6mm
- 2P Cashflow \$64.7mm
- 2P PV10 \$21.3mm

# Assets – Unconventional (NY & PA)



## Reserves and Resources

- New York State currently has a fracking ban in place.
- Empire has resources which cannot be accessed:
  - Marcellus Shale 270,000 net acres:
    - 3P proved reserves 92.8 million Boe.
    - Prospective Resource P(50) of 407 million Boe.
  - Utica Shale - TBR Limestone 135,000 net acres:
- Utica resources not measured as few wells drilled into the Utica & TBR formation in Western New York.



## Comparative shale acquisitions in Pennsylvania.

Buyer	Year	Acres	State	US\$/ac	US\$
Shell	2010	950,000	NY/PA	\$4,476	\$4,252,200,000
SouthWestern	2014	413,000	PA	\$12,000	\$4,956,000,000
EQT	2016	59,600	PA	\$11,450	\$682,420,000
Rice	2016	85,000	PA/OH	\$24,700	\$2,100,000,000
Undisclosed	2016	10,900	PA	\$10,275	\$111,997,500
Empire Energy	2009	330,000	NY/PA	\$7	\$2,455,000

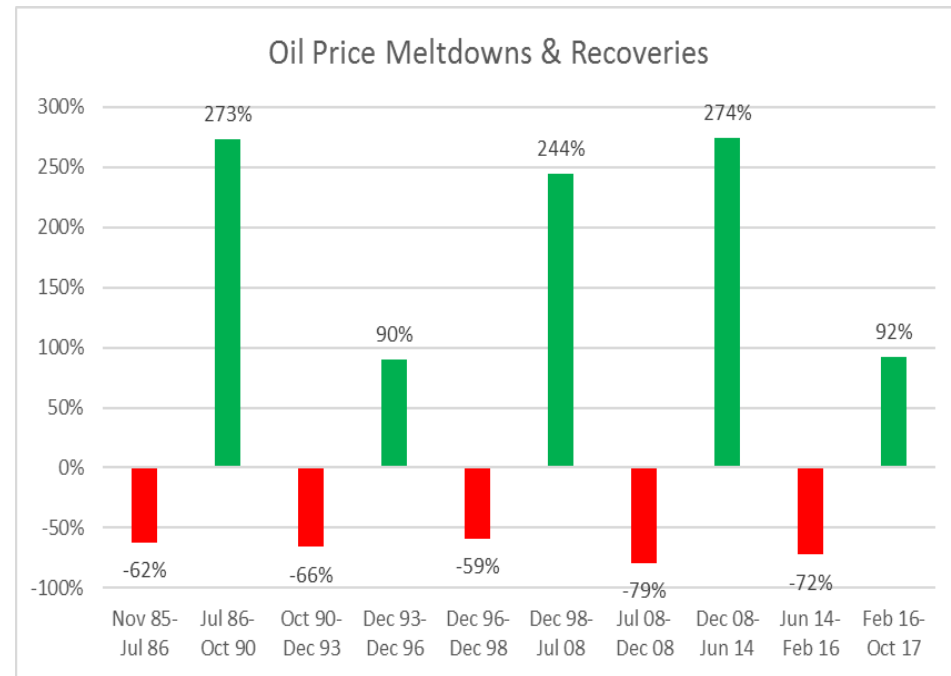


1. Executive Summary
2. USA Assets
- 3. USA Growth Strategy**
4. Australian Assets
5. Detailed Financials
6. Appendices

# Growth Objectives

Take advantage of the:

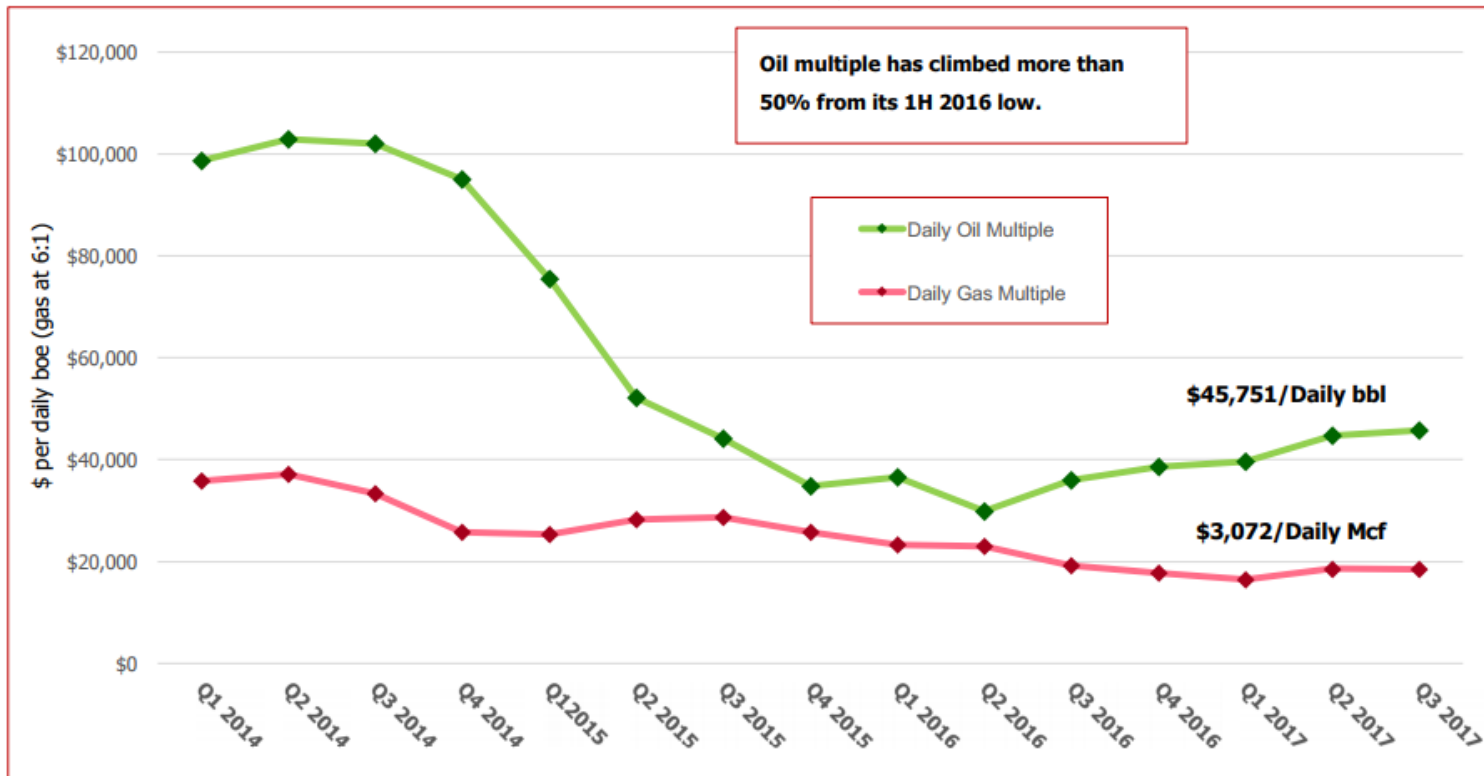
- The '*generational*' decline in the value of global oil assets;
- Expected increase in oil/gas values as oil demand reaches inflection point over supply;
- Experienced management team with additional expertise identified to strengthen operations;
- Exit with significant value uplift when equity markets seek quality producing and development oil & gas assets.



# Why Now?

Oil multiples distorted by the surge in activity in the Delaware and Midland Basins, Texas

Current multiples are \$45,750/Bbl for oil & \$3,070/Mcf for gas a 15:1 economic ratio



Notes:

1. Quarterly benchmarks derived from standard criteria from US M&A Database.
  - a. Conventional Deals
  - b. Oil deals >70% oil. Gas deals > 70% gas.
  - c. Trailing 6 months  
Gas converted to boe at a 6:1 ratio
2. Deal Value > \$10 million

# Asset Growth Strategy

## INITIAL OBJECTIVE TO ACHIEVE +5,000Boe/d

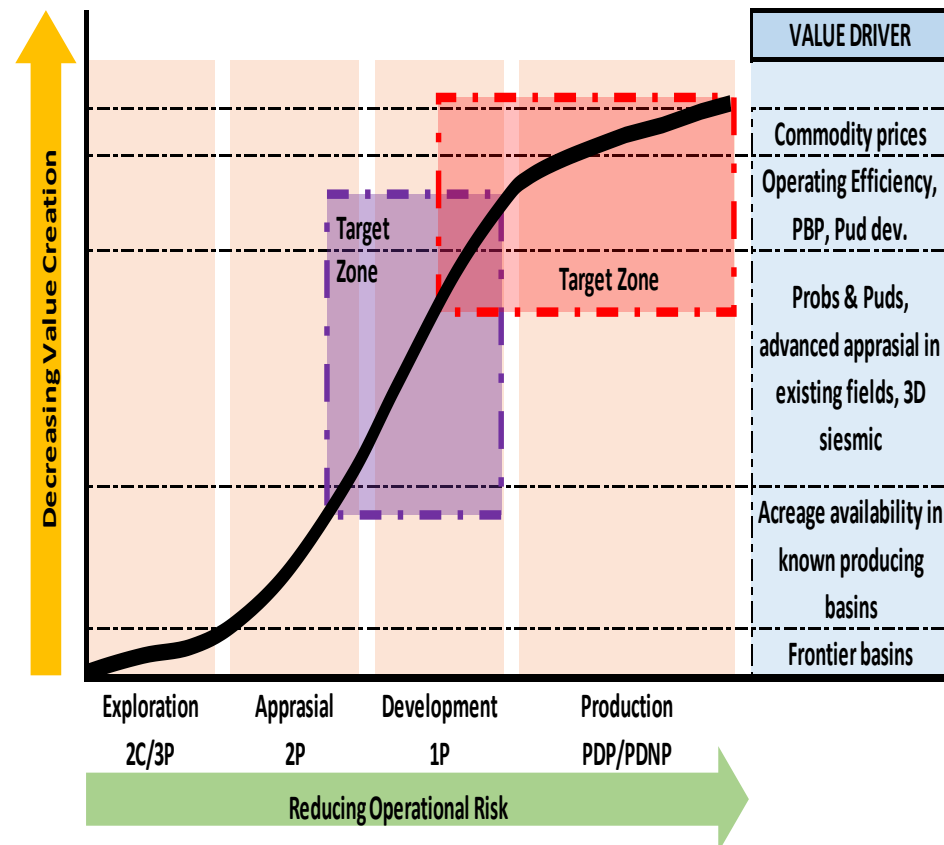
- Target the USA market, which provides:
  - Unparalleled market liquidity in oil and gas assets.
  - Producing assets in many regions available at competitive prices.
- Deploy capital to:
  - Selective conventional and unconventional producing regions.
  - JVs which quickly add inventories of both production and reserves.
- Capital recycling ensuring priority given to shareholder returns.
- Creative opportunities to generate transactional traction.
- Empire seeking ways to enhance balance sheet.
- Transaction size driven by available equity.

# Acquisition Metrics

Focus on strategic/risk metrics and priority oil & gas acquisition targets:



- RED ZONE: Build production base. Seen as low risk, but low return (rewarded from oil price & operations improvement).
- PURPLE ZONE: Enhance reward profile through low risk development.
- Identify JV's with operators providing expertise & acreage diversification.
- Value creation from:
  - Improved management of assets;
  - Future oil price up tick;
  - Development success.



# Management - USA



<p>Bruce W. McLeod Executive Chairman &amp; CEO</p>	<ul style="list-style-type: none"> <li>• 25 years experience in managing and financing resource and property projects in Australasia/Asia/USA.</li> <li>• Raised over A\$1.5 billion for property and resource projects.</li> <li>• Prior, Executive Director for BA Australia Limited a subsidiary of Bank of America, responsible for the financial and capital markets operations.</li> <li>• B.Sc., B.Com., M.Com University of Auckland.</li> </ul>
<p>Allen C. Boyer, SVP Operations</p>	<ul style="list-style-type: none"> <li>• Extensive experience in all operational aspects of the oil and gas industry, including well site activities, leasing and land agreements, pipeline and compressor construction.</li> <li>• Previous experience with US Energy Exploration, EOG Resources Appalachia, Inc., Rochester &amp; Pittsburgh Coal Company (Fortune 500 Company), Canyon Natural Gas Inc., Turm Oil, Inc., and Peoples Natural Gas Company.</li> </ul>
<p>Susan Gasper Financial Controller</p>	<ul style="list-style-type: none"> <li>• Experienced in acquisitions, integration of new software, liaison and financial statements for reviews, auditing, and all statutory reporting.</li> <li>• 12 years audit experience with leading Pittsburgh auditing group working with oil &amp; gas clients, non-profit and profit corporations.</li> <li>• Consultant to MDS Energy, an oil &amp; gas corporation. Trained staff on accounting systems and financial management reporting processes.</li> </ul>
<p>Denise Cox Senior Geologist</p>	<ul style="list-style-type: none"> <li>• Exploration &amp; development geoscientist specializing in the application of technology to carbonate reservoirs and unconventional resources. Leadership in project design, implementation &amp; evaluation.</li> <li>• 2002 to 2004 - Advanced Senior Geologist with Marathon Oil, Denver, CO and Houston, TX. USA, working throughout the Mid-Con and Gulf regions. Received 13 Marathon Oil Company Excellence Awards. Received 13 Marathon Oil Company Excellence Awards</li> <li>• 1985 to 2002 – Associate geologist to Senior Geologist, Marathon Oil, Denver, CO and Midland, TX, USA.</li> <li>• 1985 - M.S. Geology, University of Colorado; Association for Women Geologists Scholarship.</li> <li>• 1980 - B.S. Geology (Honors), State University of New York, Binghamton, NY</li> <li>• Currently President of AAPG.</li> </ul>



# Operations - USA



<p>Jim Farthing, VP Mid-Con Region</p>	<ul style="list-style-type: none"> <li>• 1979 to 2012 with Conoco-Phillips in North America.</li> <li>• Retired - 2012 as Ops Manager Conoco-Phillips L48 E&amp;P Central Region/Gulf Coast.</li> <li>• 20 years in a supervisory capacity operating shallow low pressure wells in Kansas, deep high pressure wells (18000' / 13000# BHP) in Texas, gathering systems, pipelines, booster stations, water floods and associated facilities and plants</li> </ul>
<p>Tim Hull, VP Appalachia Region</p>	<ul style="list-style-type: none"> <li>• Involved in all aspects of the oil and gas exploration, production and transportation sector in North Eastern USA for over 25 years.</li> <li>• Previously District Manager for Range Resources LLC., responsible for day to day management of all New York State oil and gas operations.</li> <li>• Prior gained experience as a lease operator in 1983 working for Envirogas, Dest Exploration, Chautauqua Energy and Berea Oil &amp; Gas</li> </ul>
<p>Shawn Streker Senior Landman</p>	<ul style="list-style-type: none"> <li>• Previously an independent landman covering 42 Kansas Counties</li> <li>• Empire Energy Landman for Mid-Continent Region specializing in lease acquisitions, joint operating agreements, farmouts, surface agreements, due diligence and title curative</li> <li>• B.Sc Wichita State University</li> </ul>
<p>David Hale, Geologist &amp; Geophysicist</p>	<ul style="list-style-type: none"> <li>• Lead geologist and manager of geosciences for Kansas assets held by Empire Energy.</li> <li>• Extensive experience in many aspects of Mid-Con geology and plays</li> <li>• Developed prospects, designed and supervised 3-D seismic acquisition, interpreted seismic and incorporated geological models to develop prospects.</li> <li>• B.S. Geology, Midwestern State University (Awarded outstanding graduating geologist)</li> </ul>

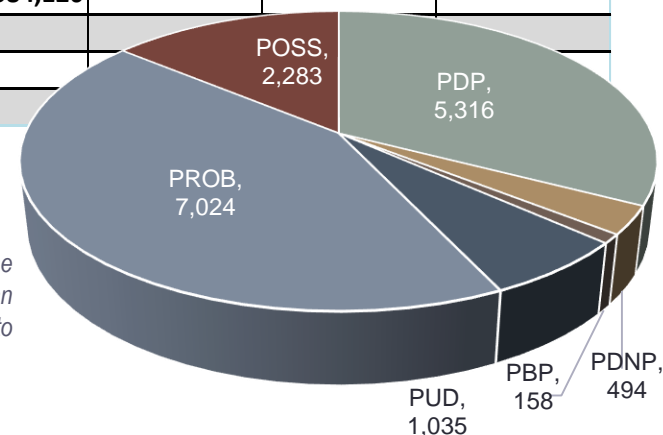
# Reserves / Resources



## NET RESERVES & PROJECTED CASH FLOW (NYMEX STRIP) JUNE 30, 2017

Reserves	Gross Wells	Oil (Mbbbls)	Gas (MMcf)	MBoe	Capex US\$M	PV0 US\$M	PV10 US\$M
Region (Reserves) - USA							
Proved Developed Producing	1,414	1,487	22,975	5,316	\$0	\$56,268	\$28,166
Proved Developed Non-producing	9	489	28	494	\$744	\$10,191	\$5,874
Proved Behind Pipe	10	151	40	158	\$582	\$4,836	\$1,455
Proved Undeveloped	58	1,001	204	1,035	\$8,904	\$23,655	\$9,285
<b>Total 1P</b>	<b>1,491</b>	<b>3,128</b>	<b>23,247</b>	<b>7,003</b>	<b>\$10,230</b>	<b>\$94,950</b>	<b>\$44,780</b>
Probable	153	3,060	23,782	7,024	\$42,060	\$99,637	\$27,694
<b>Total 2P</b>	<b>1,644</b>	<b>6,188</b>	<b>47,029</b>	<b>14,026</b>	<b>\$52,290</b>	<b>\$194,587</b>	<b>\$72,474</b>
Possible	221	1,619	3,983	2,283	\$24,595	\$41,939	\$6,115
Possible - NY Shale		90,740	12,460	92,817			
<b>Total 3P</b>	<b>1,865</b>	<b>98,547</b>	<b>63,472</b>	<b>109,126</b>	<b>\$76,885</b>	<b>\$236,526</b>	<b>\$78,589</b>
Prospective Resource New York Shale P(50)		203,500	1,221,000	407,000			
Prospective Resource P(50) - Australia (NT)*		222,000	11,076,000	2,068,000			
<b>Total Reserves &amp; Resources</b>		<b>524,047</b>	<b>12,360,472</b>	<b>2,584,126</b>			
USA Reserves by: Graves & Co Consulting & Pinnacle Energy Services, LLC.							
Northern Territory Resources by: Muir & Associates P/L and Fluid Energy Consultants							
* For definition of Prospective Resource P(50) refer to page 4							

### Reserves - MBoe



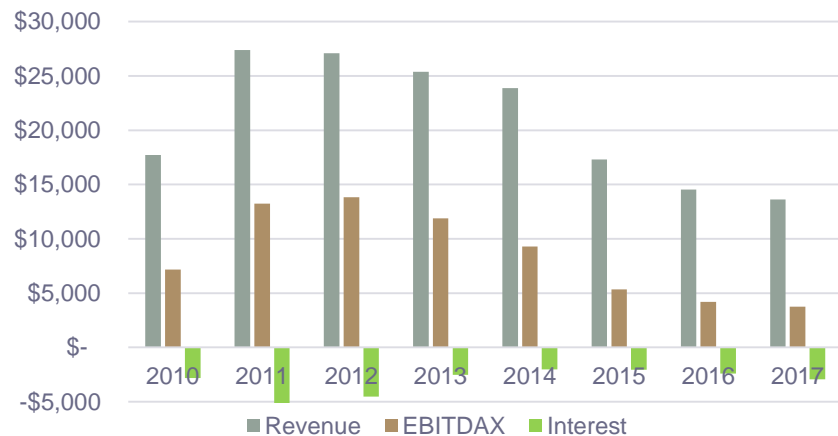
\* Refer to reserve disclosures at the end of this presentation.

\*\* Prospective Resource P(50) - unrisks, is the estimated quantities of petroleum that may potentially be recovered by the application of future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

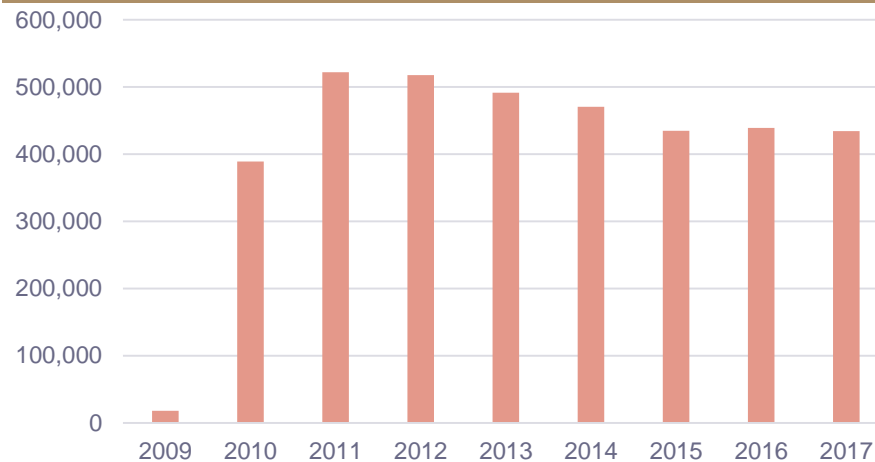


# Assets & Operations (2017 estimates)

## Annual Cash Flow - US\$M



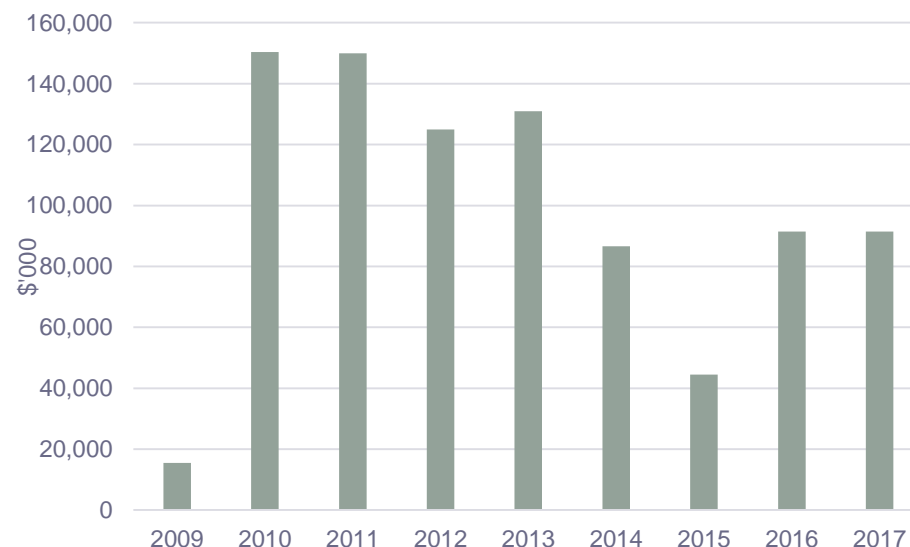
## Annual Production - Boe



## Reserves – 2P (MBoe)



## PV10 – 2P (US\$M)





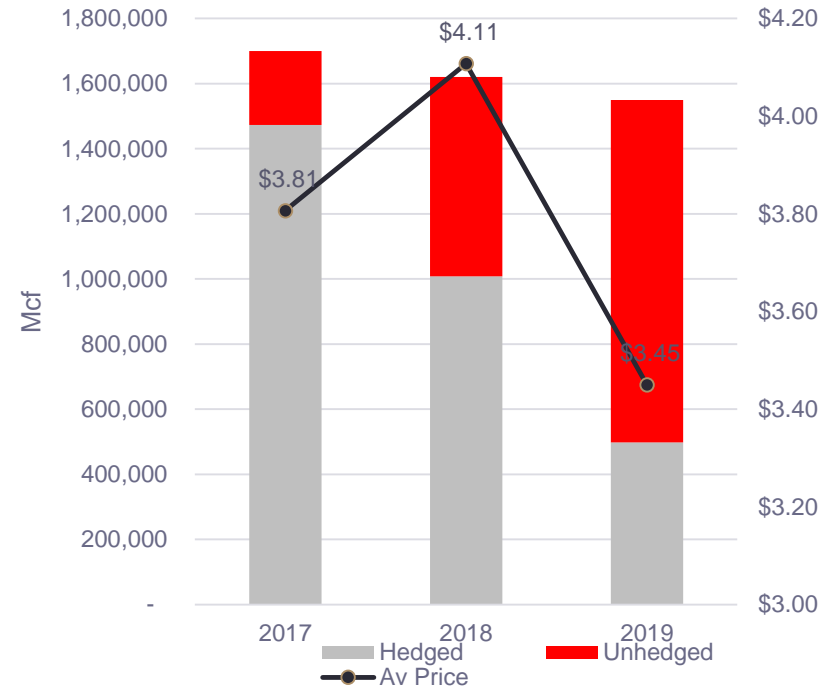
# Hedging - Existing PDP Production

**Risk Reduction - approx 95% oil production hedged through 2017 and 83% gas production to 2017. Market-to-market gain of ~\$3.3mm at 6/2017**

### Hedging - Oil Swaps



### Hedging - Natural Gas



**Price upside exposure retained:  
~0.6 MMBoe hedged compared to 2P = 15.0 MMBoe**

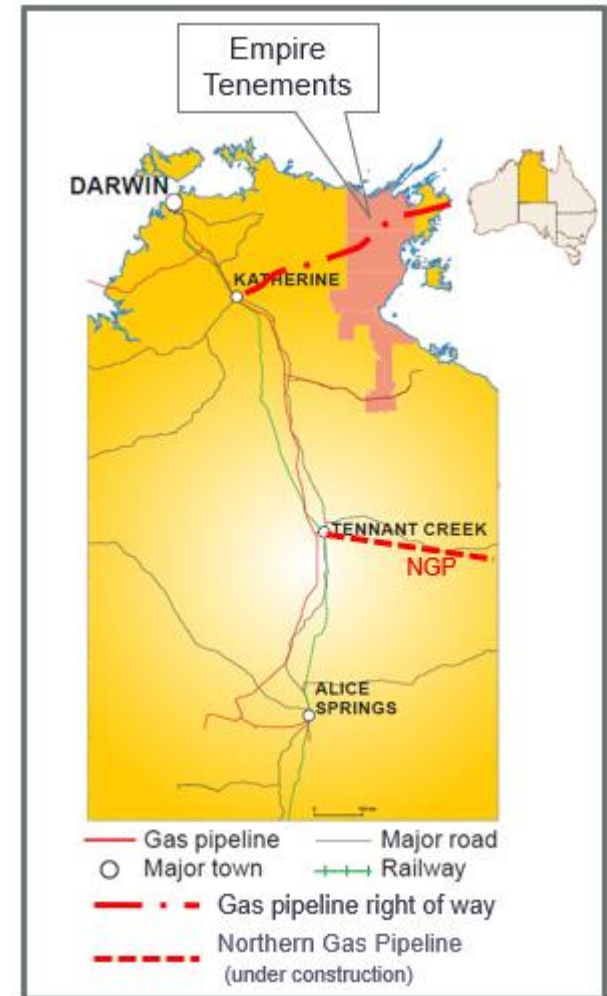


1. Executive Summary
2. USA Assets
3. USA Growth Strategy
- 4. Australian Assets**
5. Detailed Financials
6. Appendices

# McArthur Basin Introduction



- Imperial Oil & Gas (100% subsidiary of Empire) owns 14.6 million acres in the McArthur Basin, Northern Territory, Australia.
- Imperial holds ~85% of 'McArthur Basin Central Trough' considered as the depositional basin for whole Basin.
- Unparalleled unconventional petroleum system with strong liquids opportunity.
- Vast quantities of early-stage, top decile unconventional reservoir rock that can be quickly commercialised.
- Multiple well tests and cores acquired over numerous horizons.
- Unrisked Prospective Resource P(50) of 2.2 billion Boe or 13 Tcfe.
- McArthur Basin shale targets are considered analogous to Marcellus & Utica Shales (USA).
- Beetaloo sub-basin – target ready Velkerri Shales.
- Imperial seeking replacement Farm-in partner.



# McArthur Basin Introduction



Vast areas prospective for shale:

- >240Tcfe of recoverable sale gas estimated (1)
- NTGS report 2C P50 200Tcfe (GIP) in the Beetaloo sub-basin(2).

McArthur Sub-Basins...

## North McArthur sub-basin

- ✓Prospective development targets include Velkerri, Kyalla, Wollogorang, McDermott and Barney Creek shales.
- ✓Operator- **Imperial O&G (major % of sub-basin)**

## Beetaloo sub-basin

- ✓Primary organic rich unconventional targets include Velkerri, Barney Creek and Kyalla shales.
- ✓Operator- **Imperial O&G**

## Glyde sub-basin

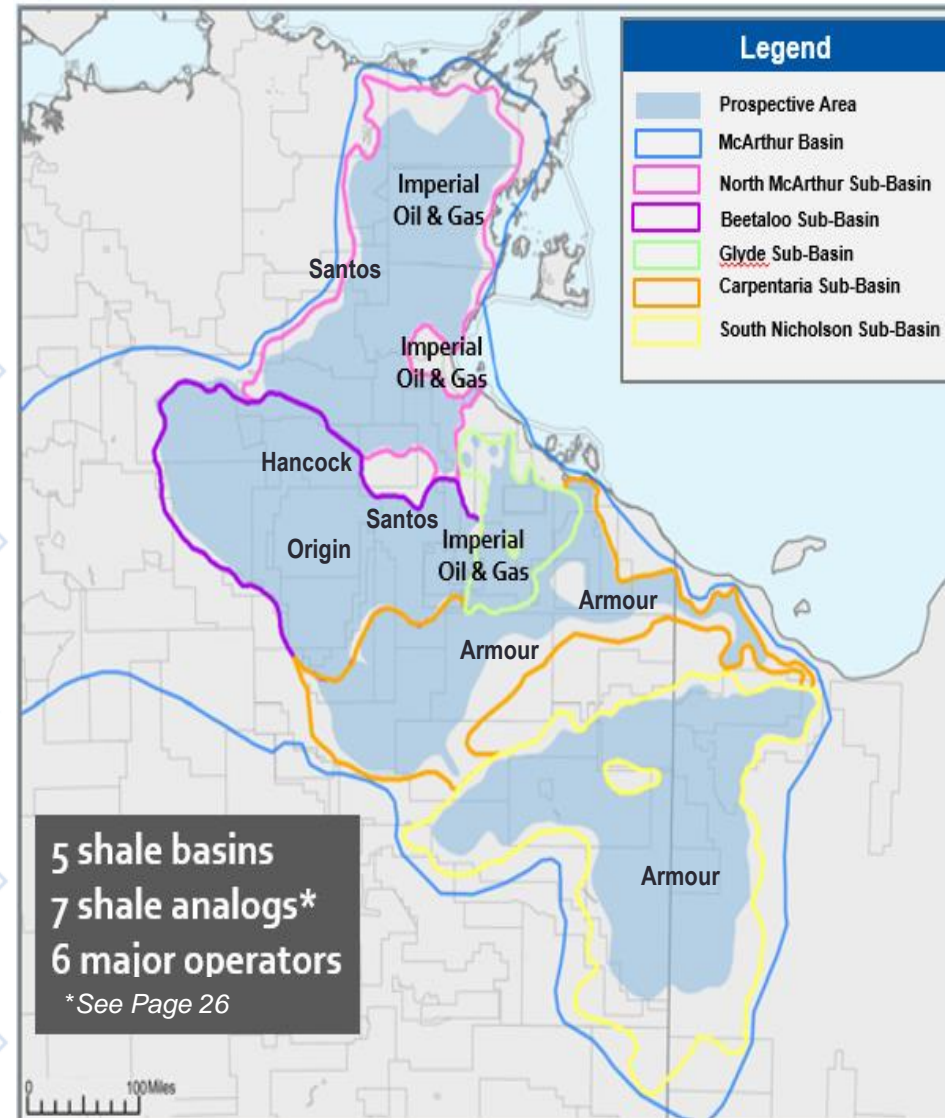
- ✓Primary organic rich unconventional targets include the Wollogorang, McDermott and Barney Creek shales.
- ✓Operator- **Imperial O&G**

## Carpentaria sub-basin

- ✓Primary organic rich unconventional targets include the Wollogorang, McDermott and Barney Creek shales.

## South Nicholson sub-basin

- ✓The Lawn Hill and Riversleigh shales identified as significant development horizons



(1) Deloitte 2015

(2) NGTS March 2017

# Why Australia vs USA?



No longer possible to discover new large-scale (>100k acres) shale plays in the USA with high deliverability and low cost

Massive USA shale gas development with a virtually limitless supply has range bound prices near \$3.00 to \$3.50/MMBtu in the USA

Australia offers the McArthur Basin, which has a +50MM acre opportunity, five sub basins, and seven potential shale intervals

Tremendous gas supply on the doorstep of Asia's decarbonization efforts over the next 50 years – key component will be massive coal to natural gas switching

LNG infrastructure already in place in Northern & Eastern Australia – 5 new plants with greater than \$60B invested, all likely short gas from 2018 onwards

Australian acreage analogous to the Marcellus and Utica Shales can be acquired at 0.01% of the cost of these USA shales

Question: Can D&C costs be reduced to within 50% of USA D&C costs over time, which would deliver <\$1.00/MMbtu finding costs? .....YES!

## A world-class commercial shale project needs:

### ...Great rocks...

- ✓ Significant core and seismic data
- ✓ Exceptional rock
- ✓ Stacked pay with several upside targets
- ✓ Clear analogy to prolific USA shales
- ✓ Shallow depths for target intervals
- ✓ Vast, contiguous acreage position

### ...Great commercial and fiscal terms...

- ✓ Modest entry price
- ✓ Competitive commercial terms
- ✓ Exceptional oil and gas markets nearby
- ✓ Favorable rule of law & regulatory environment

### ...High development capacity...

- ✓ Easy accessibility
- ✓ Logical work program
- ✓ Pipeline infrastructure
- ✓ No surface right issues or security concerns
- ✓ Substantial water resources
- ✓ Development-conducive topography
- ✓ Road infrastructure



# Management - Australia



<p>Bruce McLeod Executive Chairman</p>	<ul style="list-style-type: none"> <li>Refer to page 16.</li> </ul>
<p>Prof John Warburton Director Imperial Oil &amp; Gas</p>	<ul style="list-style-type: none"> <li>Over 30 years of technical &amp; leadership experience in leading E&amp;P companies including BP and LASMO-Eni.</li> <li>Sits on Advisory Board of Centre for Integrated Petroleum Engineering &amp; Geoscience, Leeds University, UK.</li> <li>Prof Warburton's expertise covers the Middle East, Kazakhstan, Azerbaijan, North &amp; West Africa, Pakistan, Europe, Australia, New Zealand, PNG, China, Korea and Japan.</li> <li>He has published 28 internationally recognized technical articles.</li> <li>Chief of Geoscience &amp; Exploration Excellence for Oil Search Limited; Non-executive of Senex Energy Ltd.</li> </ul>
<p><i>Proposed</i> Director &amp; CEO</p>	<ul style="list-style-type: none"> <li>Worked global resource banks, focused on the provision of debt &amp; equity to the upstream oil and gas sector.</li> <li>Successfully invested debt &amp; equity capital in a number of listed and unlisted oil and gas companies with assets in the United States, Australia, Asia and Africa.</li> <li>Expertise in the identification of value creation opportunities for upstream oil and gas development and production assets, with a particular focus on projects in the USA.</li> <li>Extensive experience in oil and gas operations and reservoir valuations.</li> </ul>
<p>Geoff Hokin Exploration &amp; Operations Imperial Oil &amp; Gas</p>	<ul style="list-style-type: none"> <li>12 years experience as a geologist in the unconventional gas and coal sectors, with various geological roles including Armour Energy, Metgasco and Arrow Energy.</li> <li>Background in Geological and Geophysical Exploration and Basin Setting Analysis and has had extensive geological and business experience in other operations.</li> <li>Experience in Aboriginal Culture and Traditions.</li> <li>Works with team of field geologists, 3D mapping geologists, cultural liaison officers and traditional owners throughout the Company's Northern Territory tenements.</li> </ul>
<p>Rachel Ryan Co. Secretary &amp; Administration</p>	<ul style="list-style-type: none"> <li>Appointed Joint Company Secretary July 2010 and Company Secretary July 2013.</li> <li>Over 10 years experience with publically listed resource companies including overseas dual listings.</li> <li>Manages production/LOE data base for PHDWin modelling of reserves and development programs.</li> <li>Lease and exploration administration and reporting.</li> <li></li> </ul>

# Australian Operations - Unconventional

## Velkerri

• 1.43 Billion yr old



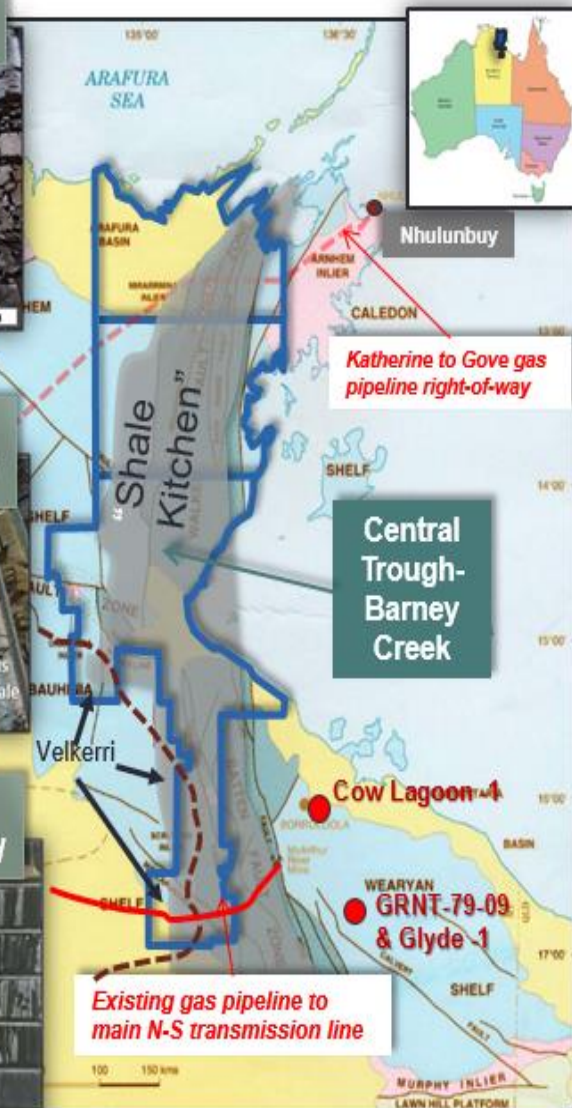
## Barney Creek

• 1.64 Billion yr old



## Tawallah

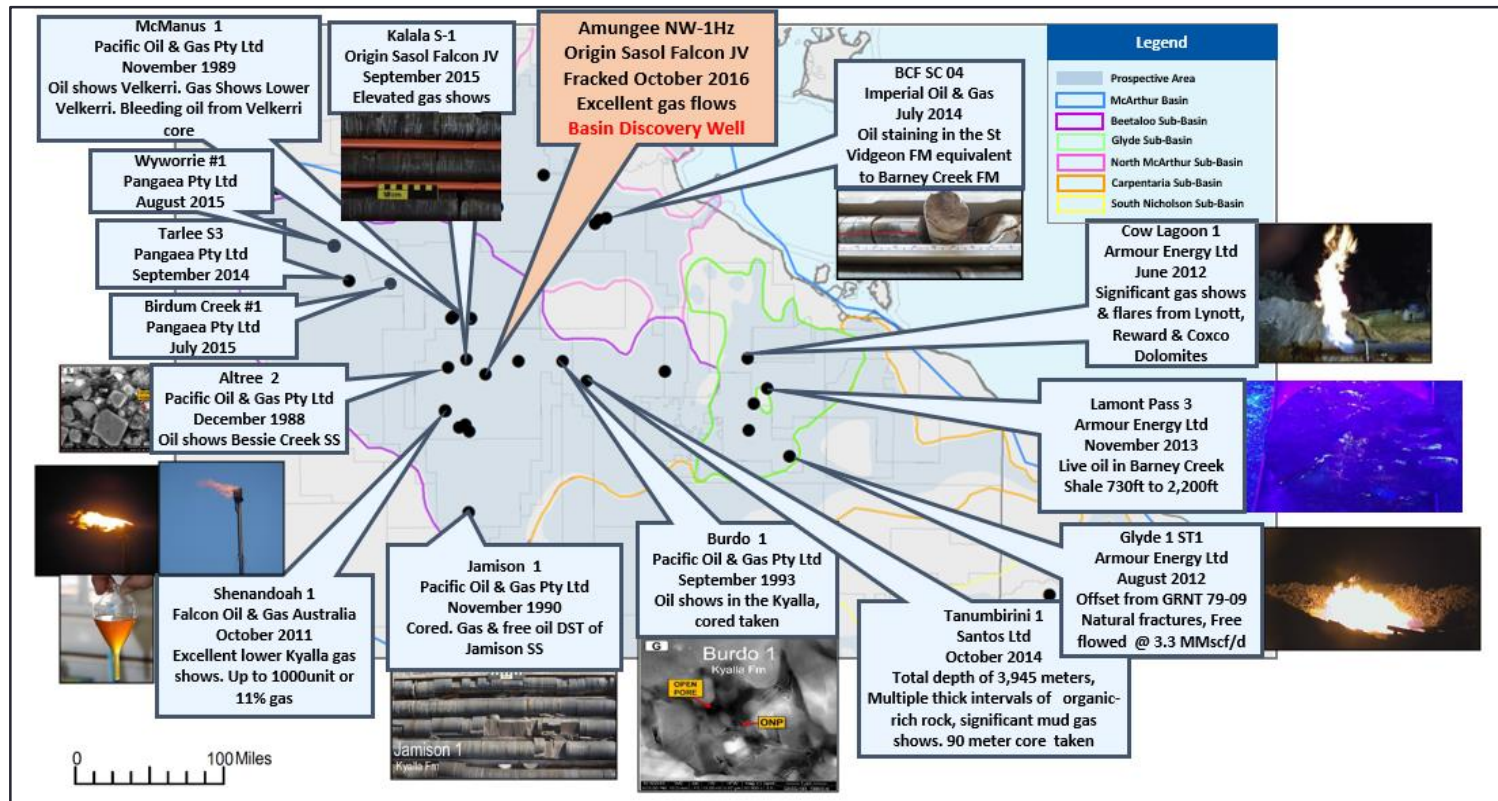
• 1.72 Billion yr old



- 14.6mm acres - WI =100%, NRI = ~87%.
- Farmout with American Energy Partners, terminated in early 2017.
- Prospective Resource:
  - Targets – 5 shale formations.
  - Prospective Resource P50 2.2 Billion Boe (~13Tcfe).
  - Strong analogy with Marcellus/Utica shales .
- Early commercialisation:
  - Velkerri shale - 250,000ac.
  - Unrisked P50 = ~1.5Tcf + ~24MMBbl.
  - Serviced by existing pipeline.
  - Critical energy shortage on East Coast
  - Feed gas required for Darwin LNG plants
- NT Government fracking review underway.

# Proven Working Petroleum System

Most shale wells drilled (~60) have produced gas or live oil.



## Joint Venture activity in the McArthur Basin

- **Origin Farm-in**
  - Falcon Oil & Gas - 2014 a \$185mm - Origin earns 70% WI.
  - A 3 well drilling program in 2015.
  - Basin 'Discovery Well' in 2016 (Amungee NW-1Hz)
  - A further 4-6 wells program is expected from 2018.
- **Santos Farm-in**
  - Tamboran - 2012 a A\$71mm - Santos earns 75% WI.
  - In 2014 drilled Tanumbirini #1 well for an estimated A\$41mm.
  - A further 4-6 wells program is expected from 2018.
- **Energy & Minerals Group, LP Farm-in**
  - Pangaea - 2015 (terms undisclosed)
  - 7 wells drilled 2014/2016.
  - Future program unknown.
- **America Energy Partners, LP** (Both Farmin's terminated in 2016 & 2017 following the death of AEP Founder).
  - Imperial - US\$15mm and expenditure US\$60mm for 80% WI.
  - Armour - US\$22mm and expenditure US\$85mm for 75% WI.

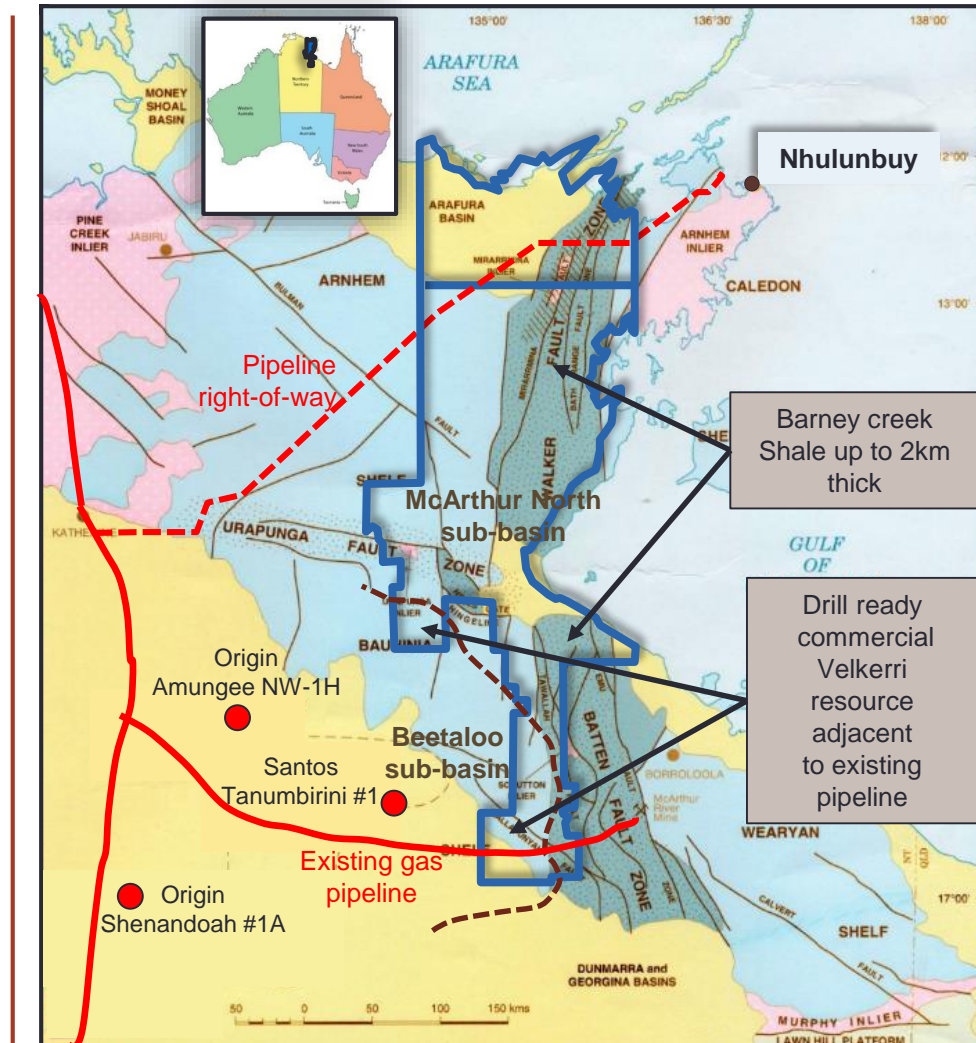
# Velkerri Shale – early production

“Tanumbirini #1 - The best shale well I have seen”

*Aubrey McClendon,*

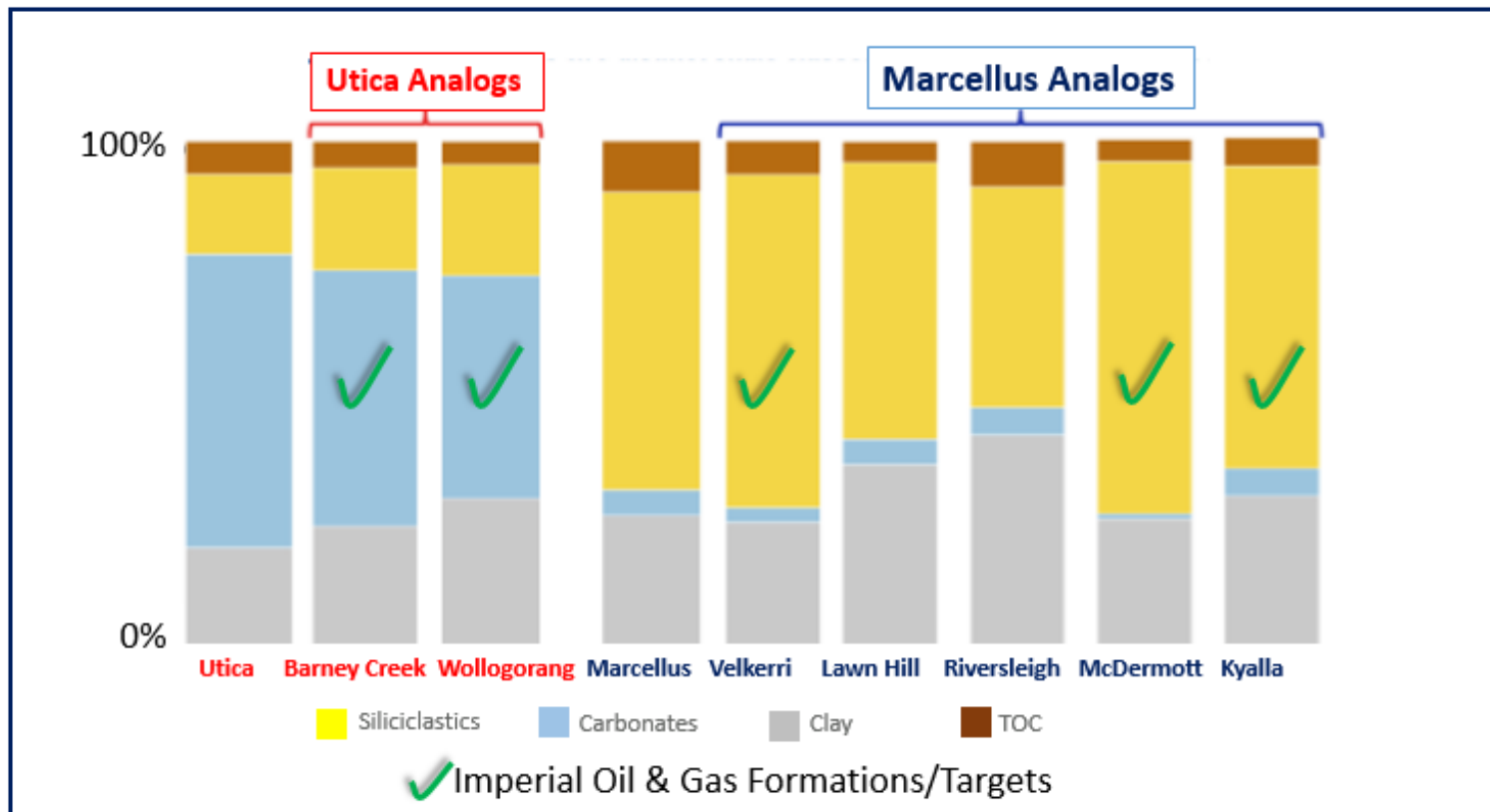
Metric	Marcellus	Velkerri (Mid-Velkerri)	Velkerri <sup>1</sup> (Mid-Velkerri)
Region	Appalachia - NE USA	Beetaloo / McArthur	Beetaloo/ McArthur
Well	Generic	Amungee NW-1H	Tanumbirini #1
Primary Hydrocarbon	Dry Gas	Dry Gas	Dry Gas
Average TOC	4%	4%	4%
Organic Carbon	3-10%	3.7%	2-10%
Ro	0.8-3.0%	1.5-2.5%	1.1-1.8%
Thickness (m)	15-100m	50-400m	50-500m
Porosity	6-8%	4-8%	4-8%
Permeability (nD)	0-70	50-500	50-500
Water Risk	No	No	No
Pressure Gradient (psi/ft)	0.4-0.6	0.53	0.5-0.7
Hydrocarbon Stage	Yes	Yes	Yes
Stacked Play	No	Yes	Yes
TVD (m)	1,600-3,500	1,000-2,500	1,500-4,000
Frackability (1-clay)%	65%	51%	65%
Gas in Place (Bcf/sqm)	260	252	780
Methane		~95%	~94%
CO <sub>2</sub>		<1.0%	<1.0%
Entry Cost/ac (\$US)	\$2,000-\$15,000	~\$1.00	~\$1.00

<sup>1</sup> Chromograph indicates dry gas



# The Seven Shale Mineralogy

Mineralogical analysis reveals the McArthur Basin holds two distinct shale classics with clearly identified US analogs

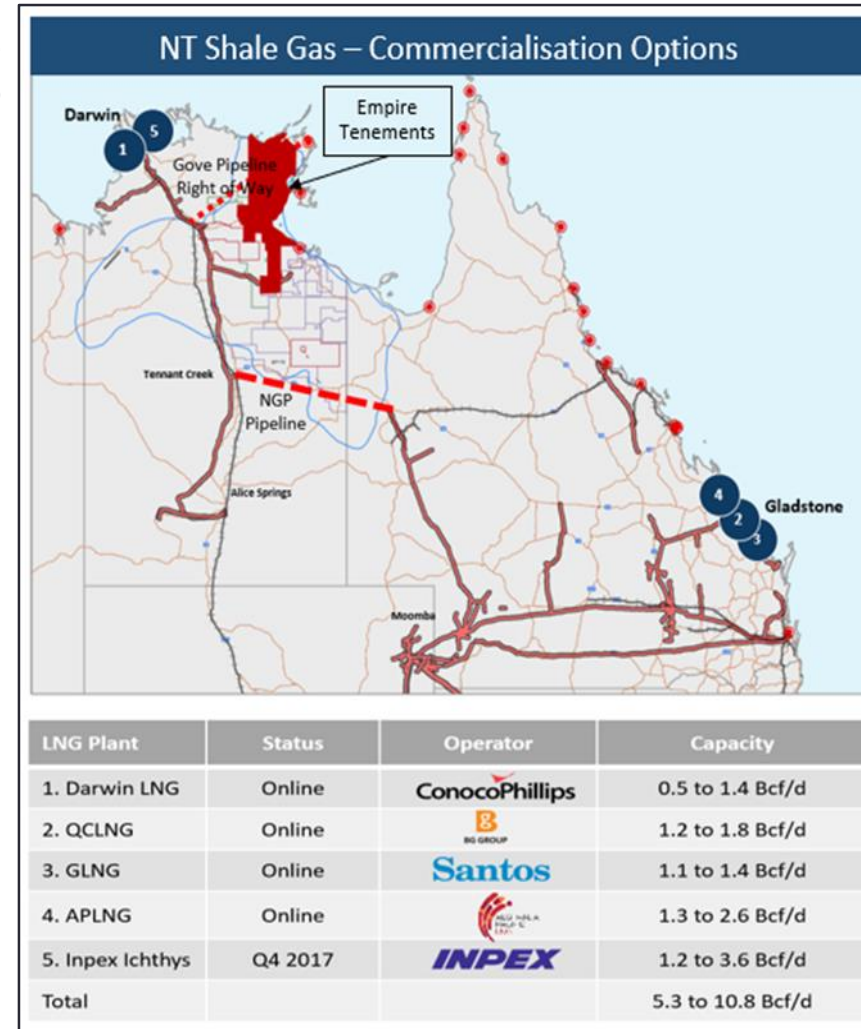


Source: AEP

# Early Commercialisation

## Existing Large Scale Markets

- Australian pipeline infrastructure divides the country:
  - Northern Territory: pipeline network running from Alice Springs to Darwin carrying conventional production to supply Darwin LNG .
  - Eastern Australia: onshore conventional/CSG shortfall suppling power to industrial, residential & LNG.
- New NT gas production would be:
  - Sold locally to mines, power plants and Darwin LNG.
  - Imperial's EP 187, drill ready, has gas pipeline connecting to the Alice Springs/Darwin pipeline.
  - Directed to new turnkey projects – methanol, urea etc.
- Northern Gas Pipeline ("NGP") when completed, can move gas to Gladstone LNG plants, which suffer CSG production shortfalls.
- East Coast commercial and residential suffering critical gas shortfall with sky rocketing energy prices.
- Larger quantities of gas would necessitate the construction of an ~500 mile pipeline to Darwin for LNG processing (1.0 Bcf/d pipeline would cost roughly \$1.5Bn, and which could be expanded to 2.0 - 3.0 Bcf/d with compression).



# Imperial Resource Estimate



Independent Prospective Resource developed to date considered to be conservative:

- Total average thickness of Velkerri & Barney Creek Shale assumed ~150m, but in some sections up to +600m to 1,500m thick.
- Geological Factor Discount applied to take account of variation in rock quality and data shortfall
- No inclusion of conventional reservoirs in underlying or overlying formations
- Imperial WI = 100%    Net Revenue Interest = ~87%    Total area 14.6 million acres

Prospective Resources (based on desk top studies and field work/core to date):

INDEPENDENTLY CERTIFIED ESTIMATED PROSPECTIVE RESOURCE								
Formation	Permits	Geological		AREA M acres	Units	P90	P50	P10
		Factor	Discount					
Barney Creek Formation	EP184, EPA180,181,182,183,188	50-90%		3,559	Bcf	3,304	8,699	20,172
		50-90%			MMBO	66	174	403
Velkerri Formation	EP184,187, EPA188	50%		315	Bcf	383	1,192	3,086
		50%			MMBO	8	24	62
Wollogorang Formation	EP184,187,EPA188	90%		1,384	Bcf	524	1,185	2,371
		90%			MMBO	10	24	47
<b>TOTAL</b>					<b>MMBOE</b>	<b>851</b>	<b>2,238</b>	<b>5,183</b>

*Conversion Factor 1Bbl:5.485Mcf*

**Prospective Resource** – ‘Those quantities of petroleum estimated, as at a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective resources have both an associated chance of discovery and chance of development.’

**Prospective Resource** – estimated by Muir and Associates Pty Ltd (MAA) & Fluid Energy Consultants (FEC)

**Conversion Factor** – 5.485 Mcf : 1 Bbl

# Beetaloo sub-basin – Volumetric Resource Estimate<sup>(1)</sup>



Total Beetaloo sub-basin Gas in Place calculation NGTS, 2017

- Cont. Resource (P90/P10) = 118/293Tcfe (GIP).
- Cont. Resource (P90/P10) = 476/1,277MMBbl (OIP).
- Desktop study~ 6,300 historical samples.
- Sampling ~1,600 new samples.

Velkerri A, B & C shales

- Three distinct facies within Middle Velkerri.
- Continuous formation across the region.
- Each facies an individual shale gas play.
- B shale most consistent across the sub-basin.

Recovery Factors (based on USA shales):

- Shale Oil ~ 4-5%.
- Shale Gas ~ 12.5%-25% (Amungee NW-1H ~16%).

Comparison, ~13.5 Tcf produced from USA shale in 2015.

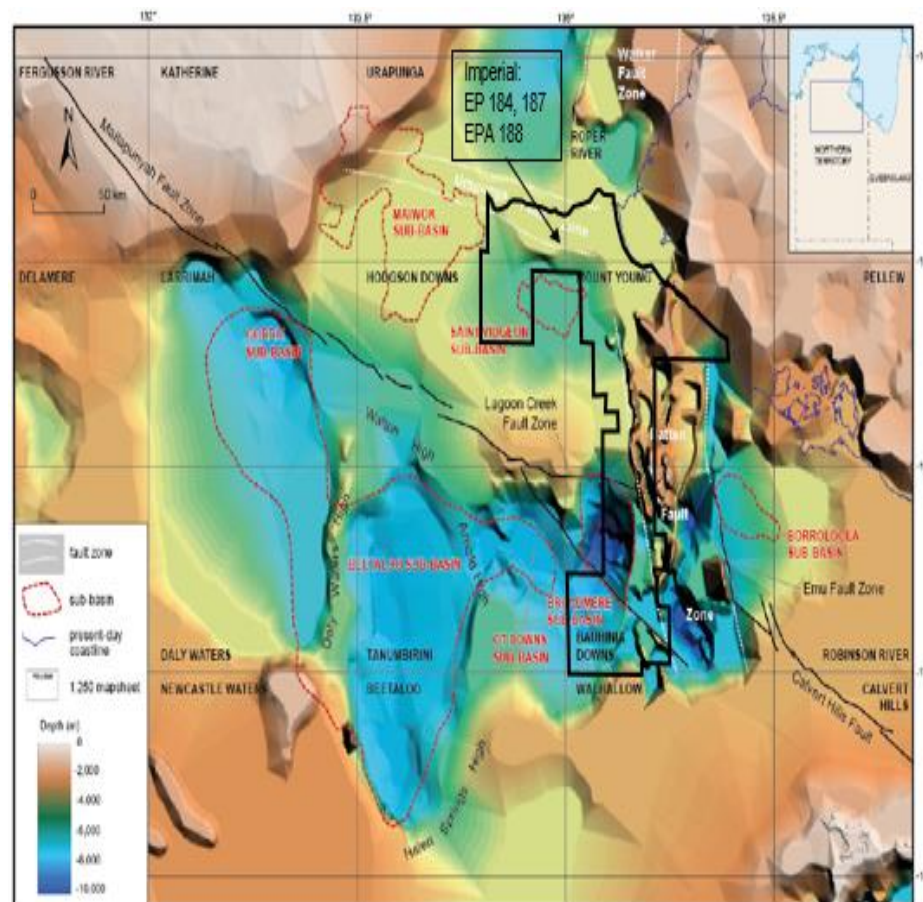
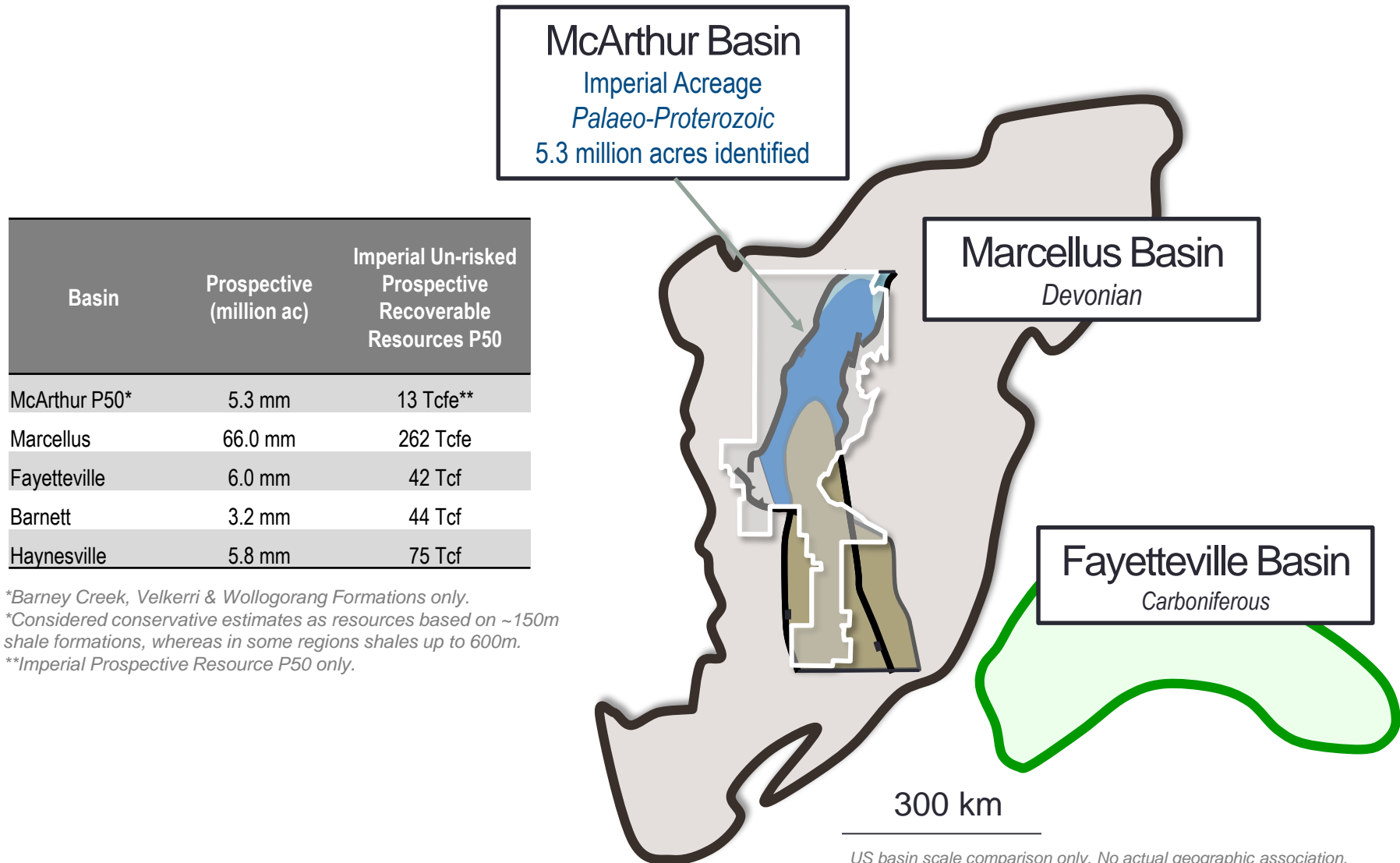


Image from: Munson TJ, 2016. Sedimentary characterization of the Wilton package, greater McArthur Basin, Northern Territory. NTGS, Record 2016-003.



# World Class Resource



\*Barney Creek, Velkerri & Wollgorang Formations only.

\*Considered conservative estimates as resources based on ~150m shale formations, whereas in some regions shales up to 600m.

\*\*Imperial Prospective Resource P50 only.

US basin scale comparison only. No actual geographic association.



1. Executive Summary
2. USA Assets
3. USA Growth Strategy
4. Australian Assets
- 5. Detailed Financials**
6. Appendices

# Financials - Detail (2011 to 2017)



Currency: - US Dollars		For the 12 Months Ending					9 Months Ending	
Acct	Description	Dec 2011	Dec 2012	Dec 2013	Dec 2014	Dec 2015	Dec 2016	Sep 2017
<b>US Operations:</b>								
<u>Net Revenue:</u>								
	Oil Sales	15,377,893	15,743,156	14,146,108	13,646,849	10,170,617	7,663,223	5,746,401
	Natural Gas Sales	11,790,372	10,936,453	10,521,877	9,517,411	6,857,400	5,703,071	4,164,575
	Other Income	199,234	557,449	749,739	487,786	696,469	471,405	310,685
	<b>Total Revenue</b>	<b>27,367,499</b>	<b>27,237,058</b>	<b>25,417,723</b>	<b>23,652,046</b>	<b>17,724,487</b>	<b>13,837,699</b>	<b>10,221,661</b>
	Production Costs & Taxes	7,803,306	7,531,062	7,607,701	8,371,627	6,887,541	5,697,844	4,139,148
	Workover & Field Overhead	2,604,867	2,692,290	2,258,489	2,994,145	1,881,094	2,051,784	1,526,119
	Operating EBITDAX	16,959,326	17,013,706	15,551,533	12,286,275	8,955,851	6,088,071	4,556,394
	G & A, Lease rental & Leasing	2,975,336	2,849,841	2,853,552	2,864,910	2,547,148	2,335,405	1,657,282
	EBITDAX	13,983,990	14,163,865	12,697,981	9,421,365	6,408,703	3,752,666	2,899,112
	G & G	840,347	508,323	1,024,357	1,745,781	268,808	47,673	91,326
	<b>Net Cash Flow - EBITDA</b>	<b>13,143,643</b>	<b>13,655,542</b>	<b>11,673,625</b>	<b>7,675,584</b>	<b>6,139,895</b>	<b>3,704,993</b>	<b>2,807,786</b>
	Depn, Depletion, Amort. ARO	5,783,159	7,307,664	6,297,637	6,551,473	7,075,354	2,384,820	1,748,160
	EBIT	7,360,483	6,347,878	5,375,988	1,124,110	(935,459)	1,320,173	1,059,626
	Interest	5,112,127	4,527,587	2,516,772	2,014,264	2,001,868	2,406,844	2,198,319
	Non-cash balance Sheet adjustments	(1,108,676)	96,294	55,387	(727,429)	1,076,592	166,211	331,864
	Earnings before Tax	3,357,033	1,723,997	2,803,830	(162,725)	(4,013,919)	(1,252,882)	(1,470,558)
	Net Capital Expenditure	1,921,182	4,672,083	3,313,864	3,416,701	(439,737)	740,895	329,563
<b>Australian Operations:</b>								
<u>Net Operating Costs:</u>								
	G & A	(1,171,755)	(552,073)	(1,039,234)	(876,158)	(638,173)	(558,752)	(736,217)
	NT - G&A, G&G, Interest	(527,863)	(1,183,686)	(1,595,219)	(1,021,168)	(1,570,166)	(893,428)	(582,872)
	Australia - EBITDAX	(1,699,619)	(1,735,759)	(2,634,453)	(1,897,326)	(2,208,339)	(1,452,181)	(1,319,089)
	Net Capital Expenditure	0	0	0	1,353,927	215,481	40,254	0

# US Operations - Detail (2011 to 2017)



Currency: - US Dollars		For the 12 Months Ending					9 Months Ending	
Acct	Description	Dec 2011	Dec 2012	Dec 2013	Dec 2014	Dec 2015	Dec 2016	Sep 2017
<b>US Operating Statistics:</b>								
- US Dollars								
<u>Gross Production:</u>								
	Oil (Bbls)	278,082	286,135	256,777	258,010	218,475	194,419	143,861
	Natural gas (Mcf)	2,738,201	2,600,690	2,526,513	2,439,303	2,287,183	2,361,740	1,750,062
<u>Net Production by Region:</u>								
	Oil (Bbls)							
	Appalachia	1,560	4,980	3,643	3,843	4,354	2,515	2,780
	Mid-Con	177,679	178,986	161,235	159,584	136,609	120,613	91,125
	Total Oil	179,239	183,966	164,877	163,427	140,964	123,128	93,905
	Weighted Avg Sales Price (/Bbl)							
	Before Hedge	\$89.70	\$89.41	\$91.08	\$85.89	\$43.46	\$38.52	\$44.13
	After Hedge	\$85.80	\$85.58	\$85.80	\$83.50	\$72.15	\$62.24	\$61.19
<u>Natural gas (Mcf):</u>								
	Appalachia	2,036,535	1,984,261	1,947,812	1,892,278	1,807,874	1,875,101	1,384,871
	Mid-Con	21,755	20,936	14,326	17,551	9,037	14,709	6,617
	Total Natural Gas	2,058,290	2,005,197	1,962,138	1,909,829	1,816,910	1,889,810	1,391,488
	Weighted Avg Sales Price (/Mcf)							
	Before Hedge	\$4.13	\$3.02	\$3.77	\$3.93	\$1.83	\$1.74	\$2.47
	After Hedge	\$5.74	\$5.46	\$5.37	\$5.00	\$3.78	\$3.02	\$2.99
<u>Oil Equivalent (BOE):</u>								
	Appalachia	340,982	335,690	328,278	319,223	305,667	315,032	233,592
	Mid-Con	181,305	182,476	163,622	162,509	138,116	123,065	92,228
	Total	522,288	518,166	491,900	481,732	443,782	438,096	325,820
	<b>Boe/d</b>	<b>1,431</b>	<b>1,420</b>	<b>1,348</b>	<b>1,320</b>	<b>1,216</b>	<b>1,200</b>	<b>1,207</b>
	Weighted Avg Sales Price (/BOE):							
	Before Hedge	\$47.08	\$43.42	\$45.57	\$44.74	\$21.30	\$18.32	\$23.28
	After Hedge	\$52.08	\$51.51	\$50.20	\$48.13	\$38.40	\$30.53	\$30.43
<u>Lease Operating Expenses (incl. taxes):</u>								
	Oil - Midcon (/Bbl)	-\$21.19	-\$22.63	-\$27.50	-\$26.58	-\$24.62	-\$21.52	-\$20.34
	Natural gas - Appalachian (/Mcf)	-\$1.99	-\$1.68	-\$1.82	-\$2.12	-\$1.90	-\$1.61	-\$1.60
	Oil Equivalent (/BOE)	-\$15.10	-\$14.56	-\$16.49	-\$17.42	-\$15.58	-\$13.01	-\$12.71

# Balance Sheet (30 June 2017)



	<b>As at</b>
	<b>30 June 2017</b>
Currency - US Dollars	
<b>CURRENT ASSETS</b>	
Cash and cash equivalents	1,895,864
Trade and other receivables	2,115,385
Financial assets, including derivatives	2,235,508
Other	1,166,566
<b>TOTAL CURRENT ASSETS</b>	<b>7,413,323</b>
<b>NON-CURRENT ASSETS</b>	
Financial assets, including derivatives	903,529
Oil and gas properties	74,738,901
Other	565,184
<b>TOTAL NON-CURRENT ASSETS</b>	<b>76,207,614</b>
<b>TOTAL ASSETS</b>	<b>85,352,687</b>
<b>CURRENT LIABILITIES</b>	
Trade and other payables	3,524,716
Interest-bearing liabilities	37,131,157
Provisions	18,326
<b>TOTAL CURRENT LIABILITIES</b>	<b>40,674,199</b>
<b>NON-CURRENT LIABILITIES</b>	
Provisions	13,153,730
<b>TOTAL NON-CURRENT LIABILITIES</b>	<b>13,153,730</b>
<b>TOTAL LIABILITIES</b>	<b>53,827,929</b>
<b>NET ASSETS</b>	<b>31,524,758</b>



1. Executive Summary
2. USA Assets
3. USA Growth Strategy
4. Australian Assets
5. Detailed Financials
- 6. Appendices**

# Definitions & Reserves Information



## Notes to Reserves

- The scope of the Reserve Studies reviewed basic information to prepare estimates of the reserves and contingent resources.
- The quantities presented are estimated reserves and resources of oil and natural gas that geologic and engineering data demonstrate are "In-Place", and can be recovered from known reservoirs.
- Oil prices for Reserve calculations are based on NYMEX West Texas Intermediate (WTI) as at June 30, 2017.
- Gas prices for Reserve calculations are based on NYMEX Henry Hub (HH) as at June 30, 2017.
- Prices were adjusted for any pricing differential from field prices due to adjustments for location, quality and gravity, against the NYMEX price. This pricing differential was held constant to the economic limit of the properties.
- All costs are held constant throughout the lives of the properties.
- The probabilistic method was used to calculate P50 reserves.
- The deterministic method was used to calculate 1P, 2P & 3P reserves.
- The reference point used for the purpose of measuring and assessing the estimated petroleum reserves is the wellhead.
- "PV0" Net revenue is calculated net of royalties, production taxes, lease operating expenses, and capital expenditures but before Federal Income Taxes.
- "PV10" is defined as the discounted Net Revenues of the company's reserves using a 10% discount factor.
- "1P Reserves" or "Proved Reserves" are defined as Reserves which have a 90% probability that the actual quantities recovered will equal or exceed the estimate.
- "Probable Reserves" are defined as Reserves that should have at least a 50% probability that the actual quantities recovered will equal or exceed the estimate.
- "Possible Reserves" are defined as Reserves that should have at least a 10% probability that the actual quantities recovered will equal or exceed the estimate.
- Prospective Resource P(50) - unrisked, is the estimated quantities of petroleum that may potentially be recovered by the application of future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.
- Utica shale gas potential resources have only been calculated for the region where drill data is available. Very few wells have been drilled into the Utica in Western NY and NW Pennsylvania. Estimates for GIP have been made were the few existing wells have been drilled. Empire holds additional acreage outside the current potential resource region. It is expected that as with shale characteristics, the shale formations will continue within the remaining acreage. The potential GIP may increase if more data was available.
- "Bbl" is defined as a barrel of oil.
- "Boe" is defined as a barrel of oil equivalent, using the ratio of 6 Mcf of Natural Gas to 1 Bbl of Crude Oil. This is based on energy conversion and does not reflect the current economic difference between the value of 1 Mcf of Natural Gas and 1 Bbl of Crude Oil.
- "D&C" means drilled and completed and "F&D" means cost of finding and developing a project.
- "EBITDAX" means Earnings Before Interest, Tax, Depreciation/Depletion, Amortization & Exploration.
- "LOE" means lease operating expenses.
- "M" is defined as a thousand.
- "MM" is defined as a million & "MMBoe" is defined as a million barrels of oil equivalent.
- "Mcf" is defined as a thousand cubic feet of gas & "MMcf" is defined as a million cubic feet of gas.
- All volumes presented are net volumes and have had subtracted associated royalty burdens which means the Net revenue interest or "NRI"..

## Qualified petroleum reserves and resources evaluators

*The information in this report which relates to the Company's reserves is based on, and fairly represents, information and supporting documentation prepared by or under the supervision of the following qualified petroleum reserves and resources evaluators, all of whom are licensed professional petroleum engineer's, geologists or other geoscientists with over five years' experience and are qualified in accordance with the requirements of Listing Rule 5.42:*

Name	Organisation	Qualifications	Professional Organisation
Kent B Lina	Graves & Co Consulting, LLC	BSc	SPE*
John P Dick	Pinnacle Energy Services, LLC	BPE	SPE*
Wal Muir	Muir and Associate P/L	BSc, MBA	PESA**

\* SPE: Society of Petroleum Engineers \*PESA: Petroleum Exploration Society of Australia

None of the above evaluators or their employers have any interest in Empire Energy E&P, LLC or the properties reported herein. The evaluators mentioned above consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.