

Shale Plays in the McArthur Basin



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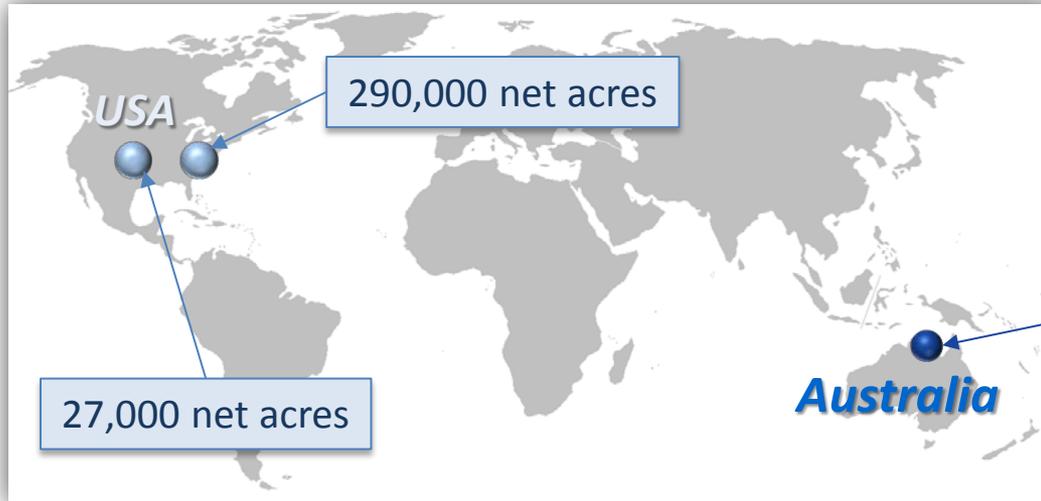
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All amounts in this presentation are US\$ unless otherwise stated. Empire Energy’s presentation currency is \$US.

- Empire Energy Group
- 100% owned subsidiary Imperial Oil & Gas
- The rocks; a remarkable petroleum system
- Unique acreage footprint
- Resource estimation
- USA examples & expertise
- Commercialisation
- Traditional Owners



Empire Energy Group: An independent exploration & production company focused on acquisition & development of conventional & unconventional oil & natural gas resources



Australia



14.6mm net acres

Conventional & unconventional oil & gas exploration

Prospective Resource P(50) (unrisked)
1,847MMBoe (~12 Tcfe)

USA



Conventional oil & gas production

- NY, PA, KS, OK - 2P ~14.3MMBoe

Potential Unconventional development*

- NY - 3P ~93MMBoe
- NY - Prospective P(50) (unrisked) ~203MMBoe

* NY State position is that 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.’

USA (Empire Energy USA, LLC - 100% subsidiary)

- Producing ~1,250 Boe/d
- 2P Reserves 14.3 MMBoe
- 2P PV10 US\$ 87 million
- ~27,000 net acres conventional & unconventional - Kansas & Oklahoma
- ~250,000 net acres Marcellus - New York State*
- ~145,000 net acres Utica Shale - New York State*



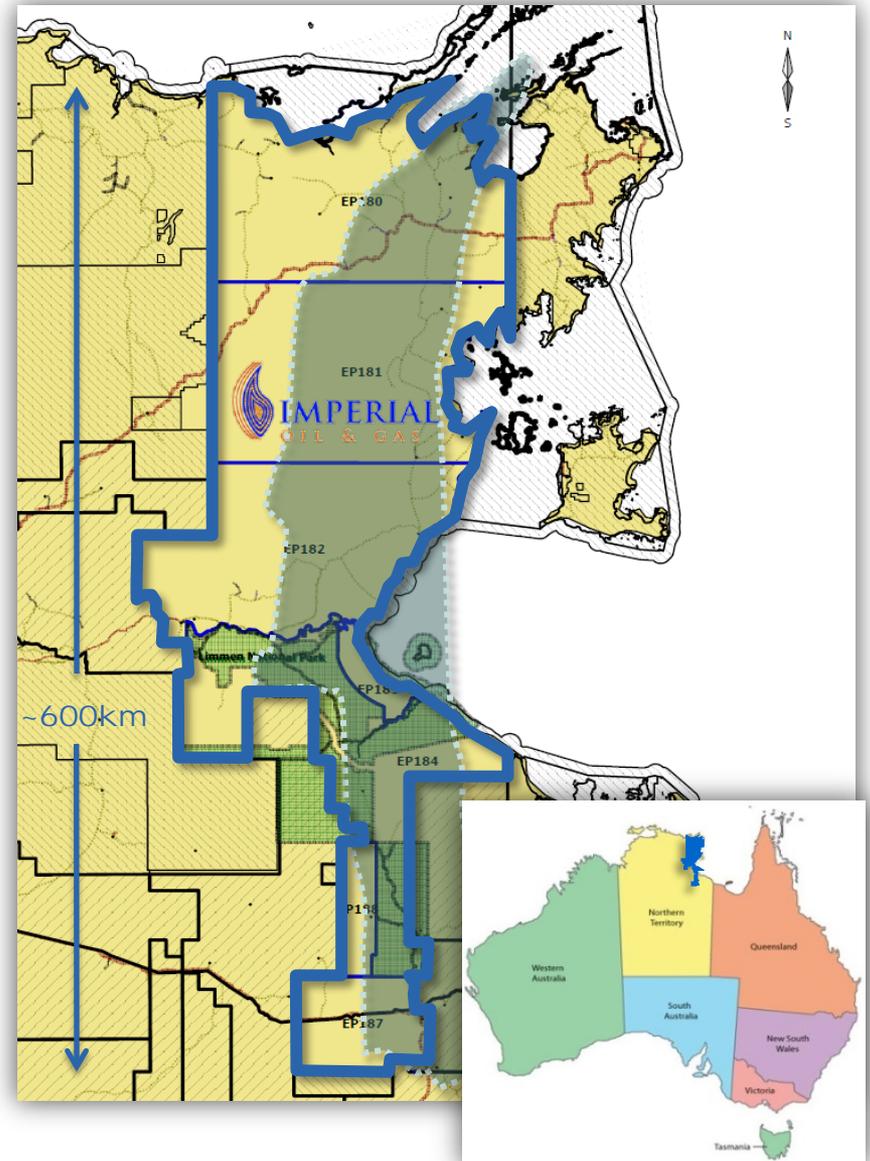
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Australia (Imperial Oil & Gas Pty Ltd - 100% subsidiary)

- ~14.6mm net acres - McArthur Basin & Beetaloo Sub Basin, 100% WI
 - ~4.8mm net acres Walker/Barney Creek Shale Trough
 - ~0.6mm net acres Velkerri (Beetaloo) Basin Shale
 - ~2.2mm net acres Tawallah Group (McDermott & Wollongorang Formations)
- Proven petroleum system
- Non-binding US\$75 million Farm-in LOI to earn up to an 80% working interest signed with an affiliate of American Energy Partners, an oil & natural gas operating & asset management company founded by Aubrey K. McClendon, and based in Oklahoma City, Oklahoma – 18th Aug 2015



- Secured following Regional Screening over 2009/10
- Tenements cover 14.6 million acres
- 100% working interest
- Includes ~80% of the onshore McArthur Basin Trough
- Proven petroleum system
 - Known gas composition C1 77%, C2 11%, C3 11%
C4 0.6%, C5 0.2%, negligible CO₂
 - **Strong liquids potential**
 - Recent nearby wells **flowed gas** from target formations **without hydraulic fracture**
- 2 tenements awarded, 4 in negotiation
- Negotiations with Traditional Owners near complete



Central Trough Multiple Stacked Targets

Proterozoic laminated black organic sulphurous carbonaceous silt & mudstone petroleum source rocks

Shale	Velkerri	Barney Creek	Tawallah
Age	Meso-	Paleo-	Paleo-
Pressured	Over	Over	Over
TOC	Up to 7.5%	Up to 10.4%	Up to 7%
Gas	Free Flowing	Free Flowing	?
Reservoir	Sandstone beneath	Dolomite beneath	Dolomite & Sandstone beneath
Deposition	Marine anoxic	Basinal marine anoxic	Marine anoxic - lacustrine?
Thickness	Up to 1,968'	Up to 3,000'	Up to 1,800'

Velkerri

- 1.43 Billion yr old



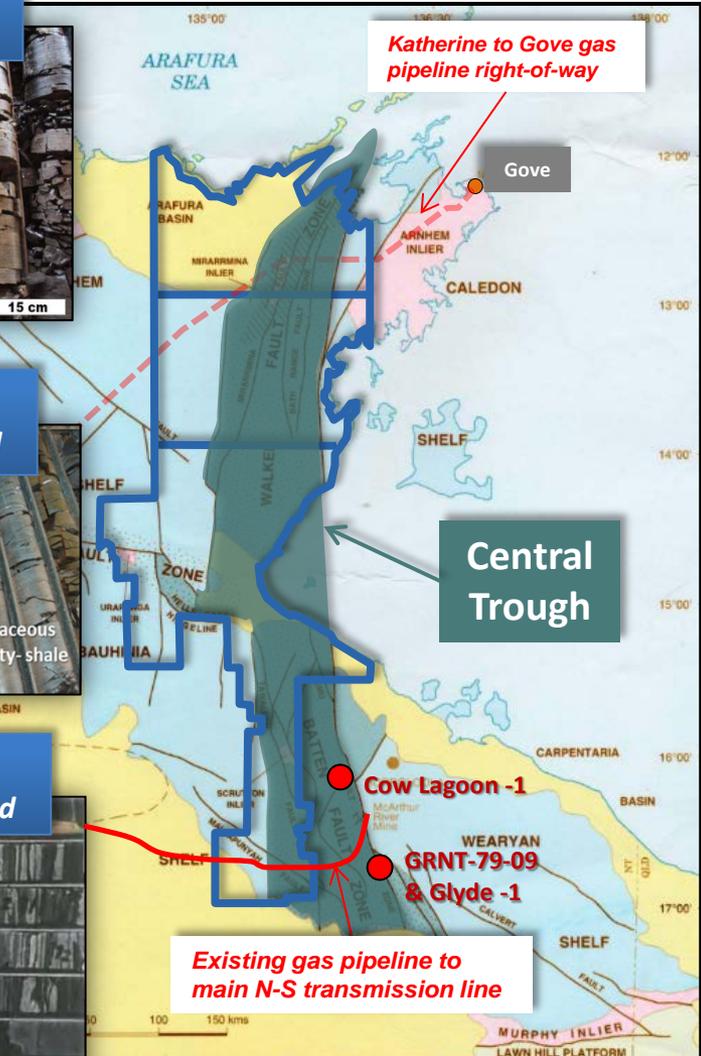
Barney Creek

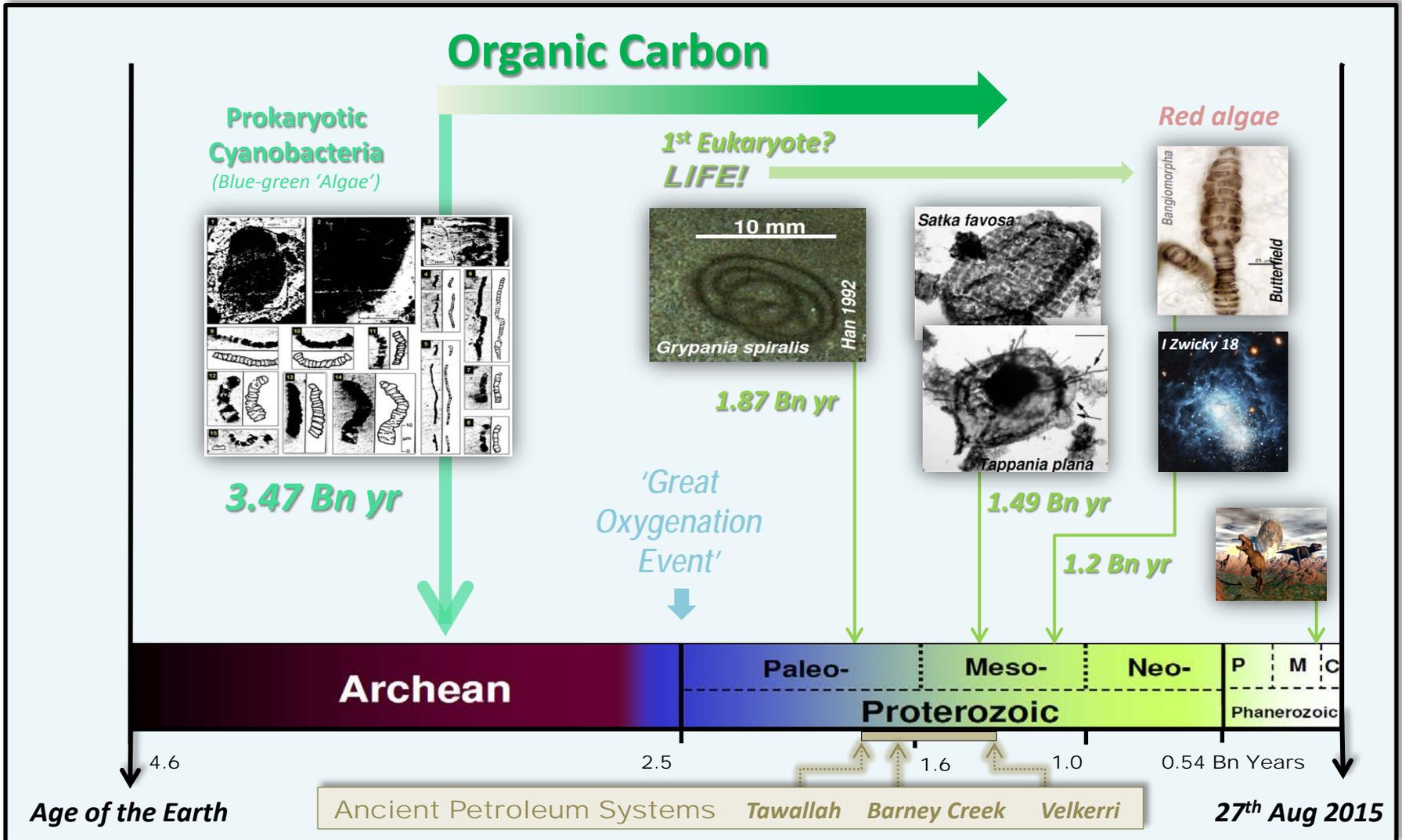
- 1.64 Billion yr old



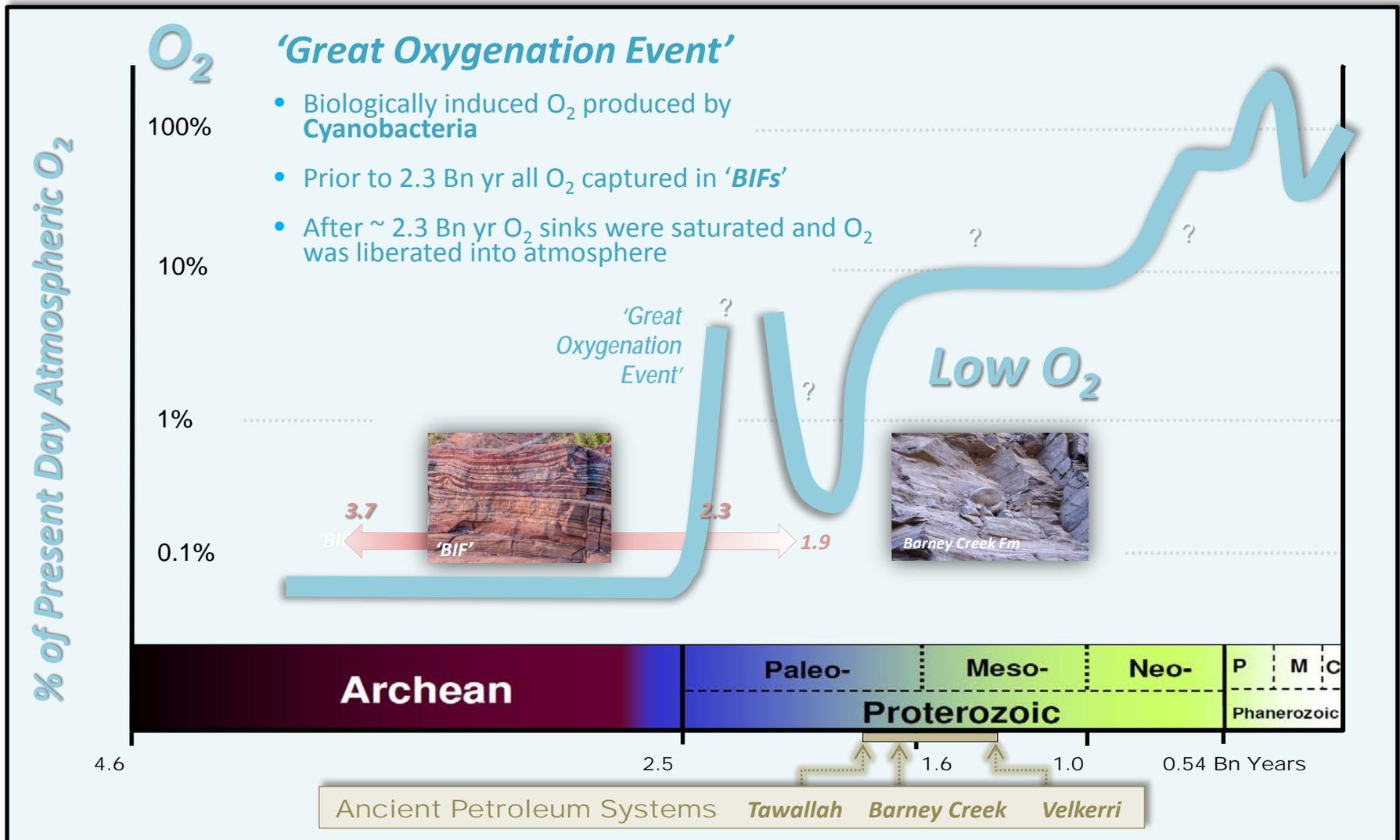
Tawallah

- 1.72 Billion yr old

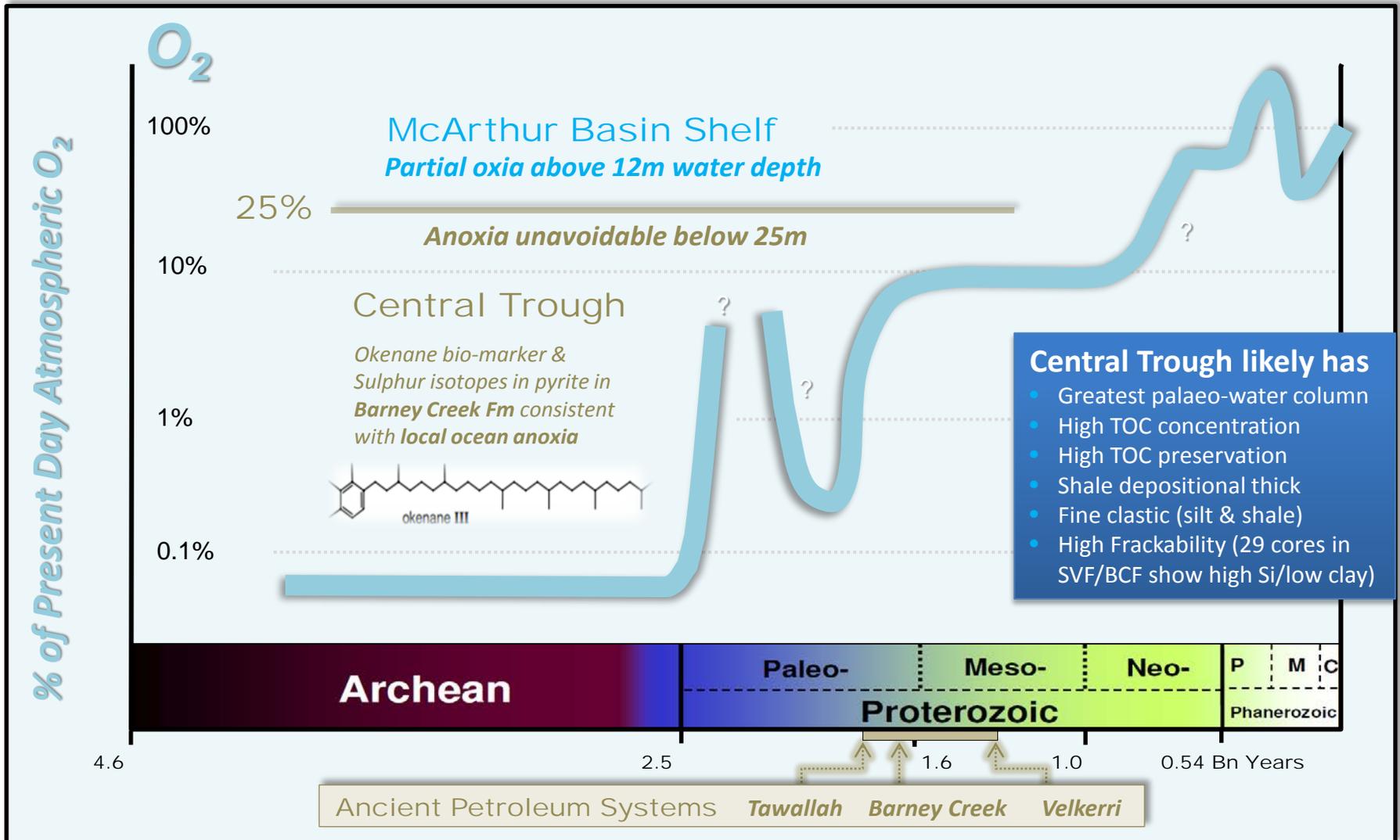




Modified after Brock J.J. 2007. Molecular fossils and early life on Earth.



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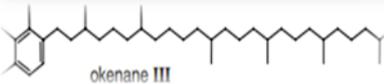
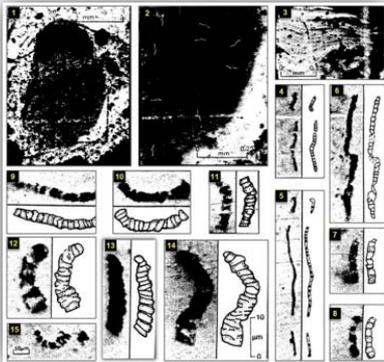
Modified after

1. Brock J.J. 2007. Molecular fossils and early life on Earth. 2. Dick, Shen, Canfield & Knoll (2002)
3. Dick, Evans, Holman, Leach & Grice (2014); Brocks & Schaeffer (2007)

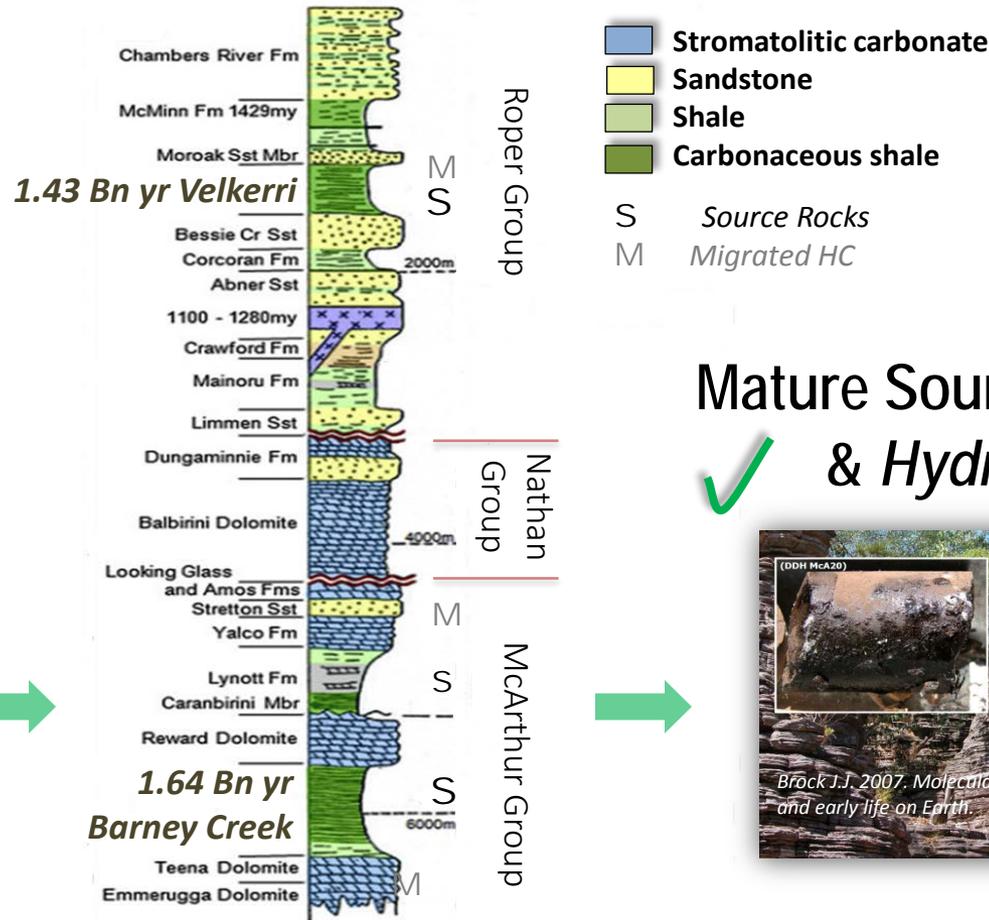
Imperial has the ingredients

Organic Carbon
✓ Presence

3.465 Bn Yr onwards

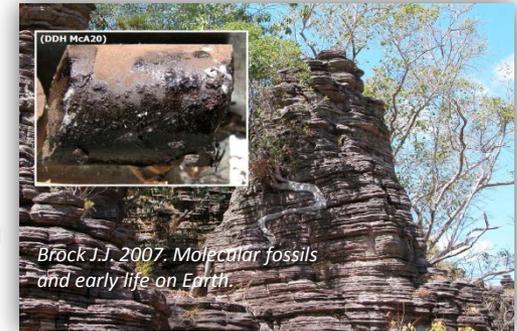


✓ *Anoxic Basin*
depositional environment



Modified after Craig et al. 2013

Mature Source Rocks
✓ & Hydrocarbons



→ Central Trough restricted basin

- Narrow restricted fault-bounded depo-centre
- Contemporaneous shelf, slope & basin (proximal-to-distal N to S)
- Lithofacies associations

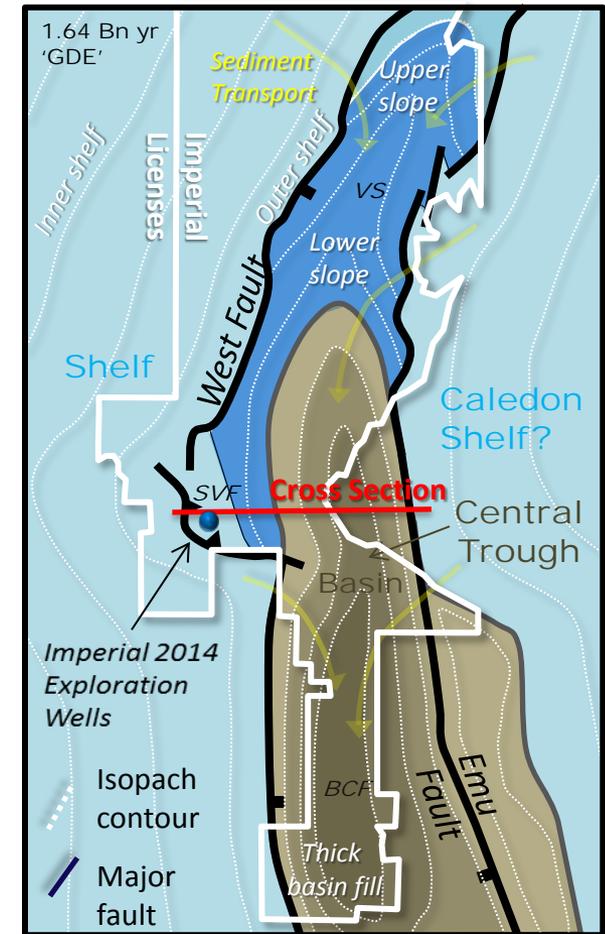
Shelf	St Vidgeon Fm	'SVF'
Slope	Vaughton Siltstone Fm	'VS'
Basin	Barney Creek Fm	'BCF'

Age correlative & genetically linked (supported by Imperial age dating)

- Greatest organic carbon preservation & thickness predicted in restricted Barney Creek Formation Basin (*in Imperial's acreage*)
- TOC present in shales along flooding surfaces in shelf
St Vidgeon Fm (Imperial 2014 Well BCFSC-04)
- hence intervening slope facies likely to contain significant TOC

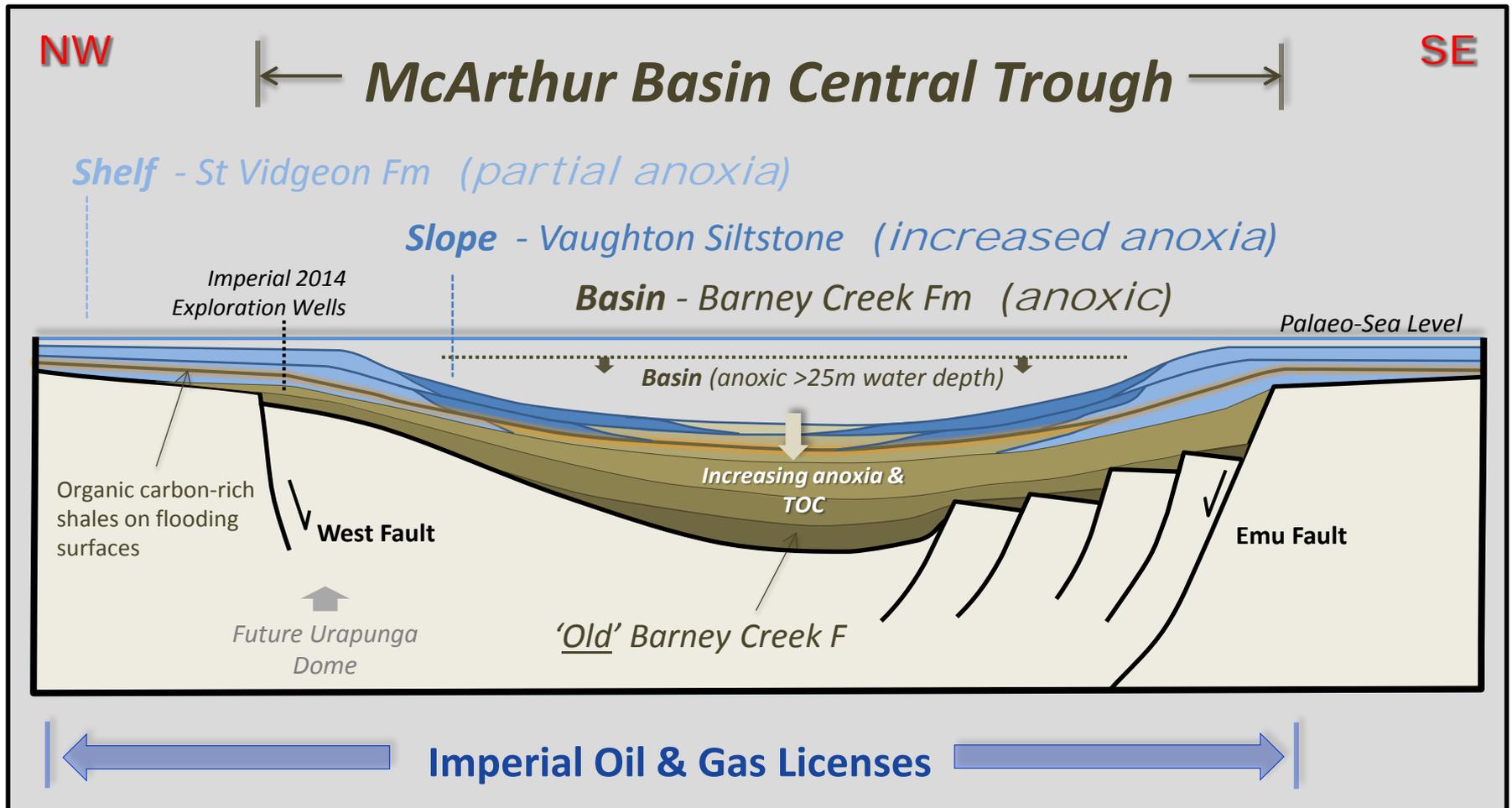


Organic Carbon Preservation ✓ in restricted anoxic trough

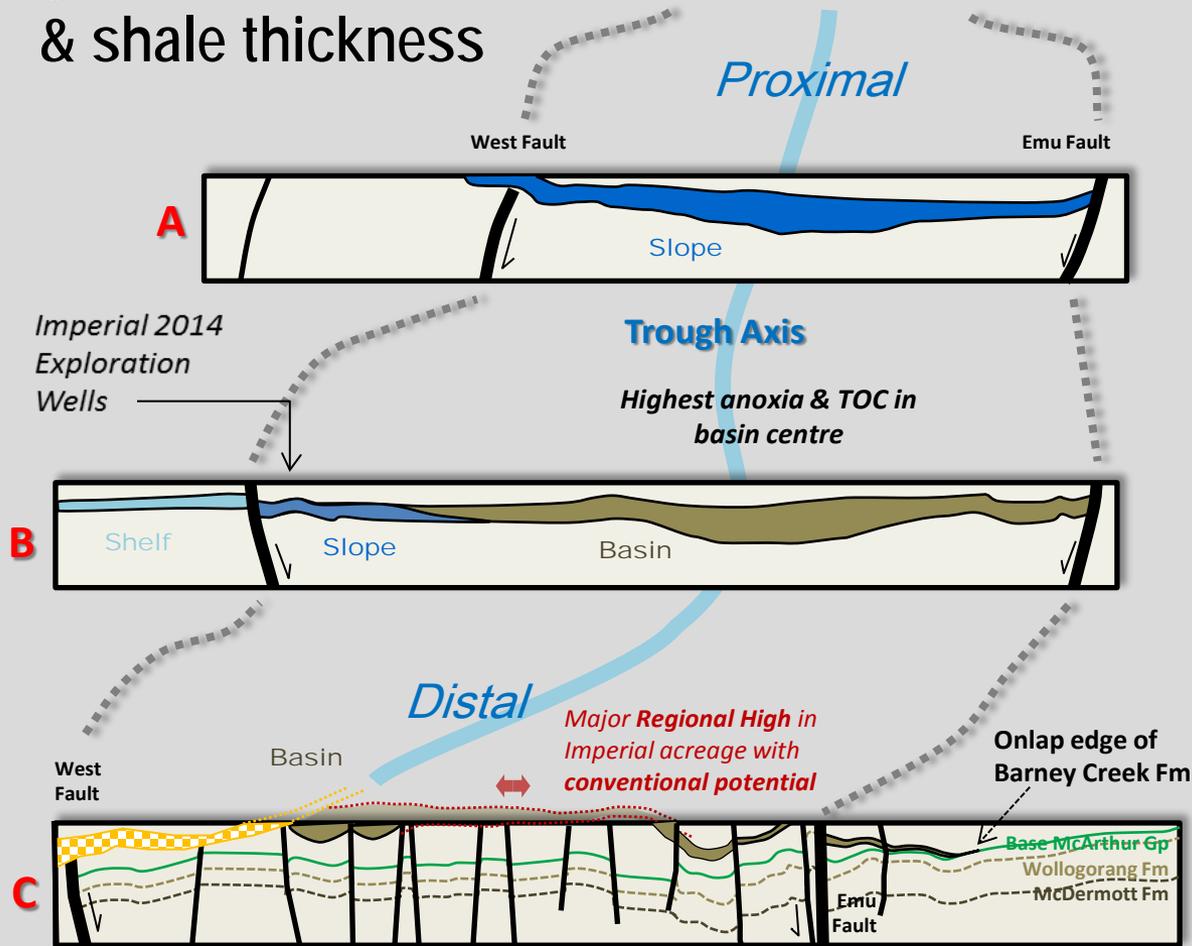




Imperial acreage has the depo-centre with the greatest predicted TOC preservation & shale thickness



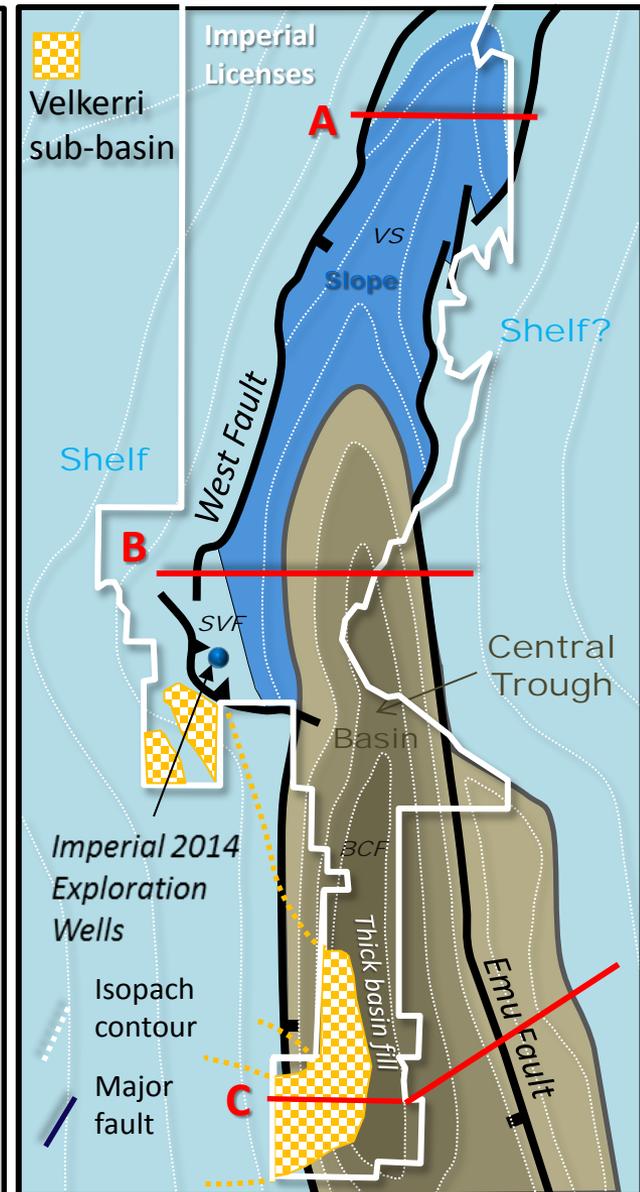
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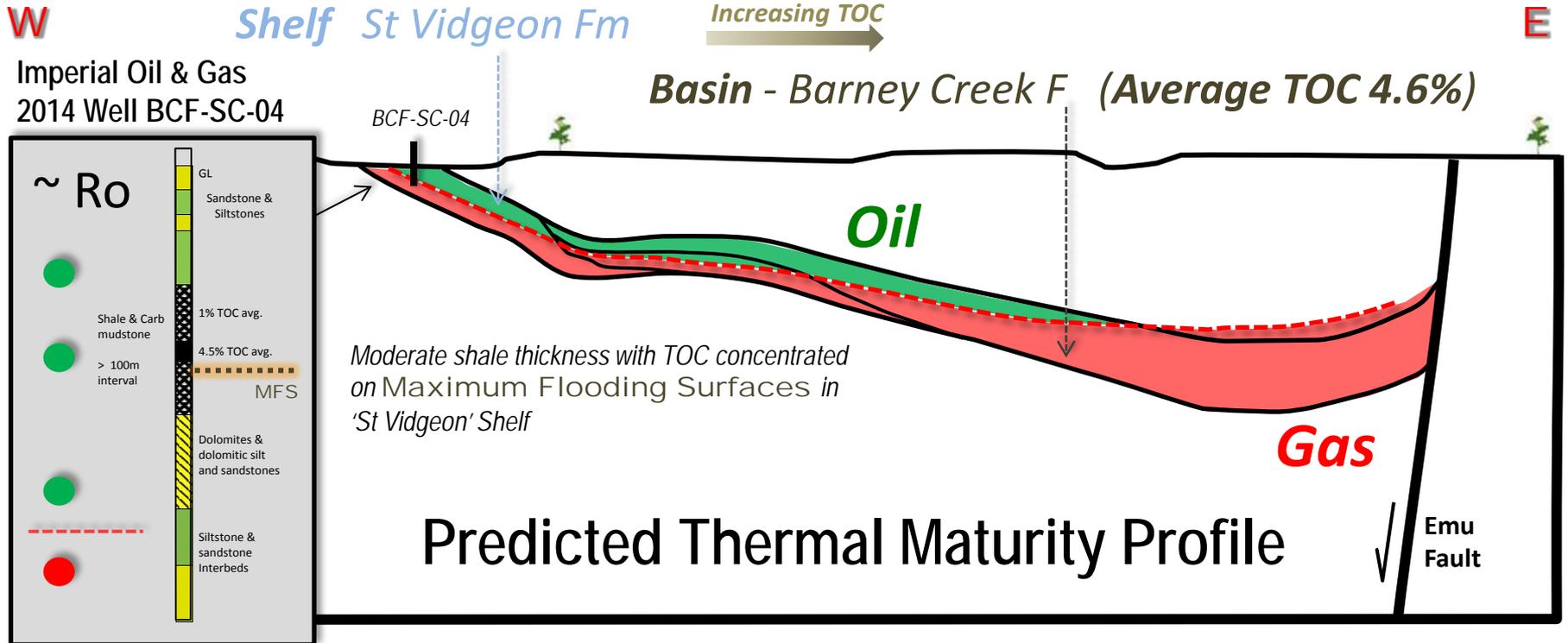


Schematic

Source: Imperial Oil & Gas 2015

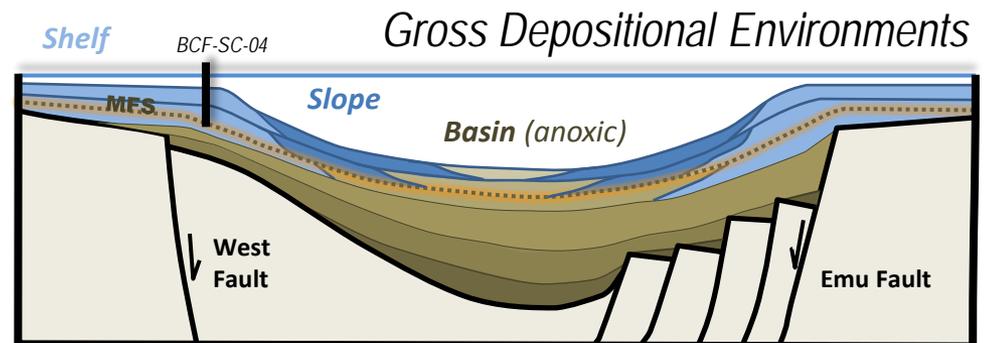
From Armour Energy July 2015





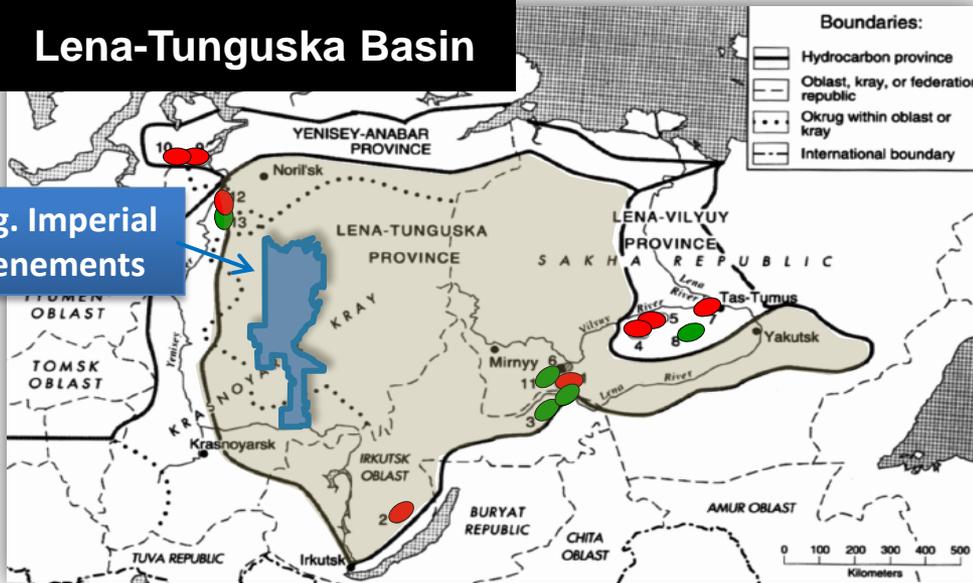
Source Rock Analyses - average of core samples

	n =	TOC %	S1	S2	T max	C% Ro	HI
Velkerri	100	6.16	0.52	9.08	422	0.61	84
St Vidgeon	15	4.51	0.06	0.06	399	0.58	54
Barney Creek	178	4.55	0.37	3.2	437	0.72	160
Wollogorang*	8	2.52					



Lena-Tunguska Basin

e.g. Imperial Tenements



Siberia, Russia

- Conventional dolomite reservoirs
- 25 hydrocarbon discoveries
- Largest field 2P = 260MMBbl & 11 Tcf
- Proven 80 BBoe & 477 Tcf
- **Oil & Gas Shales**
 - Black, bituminous, limy, silty carbonaceous
 - Average TOC = 0.2%, locally 5-10%

Proterozoic source rocks are major petroleum systems

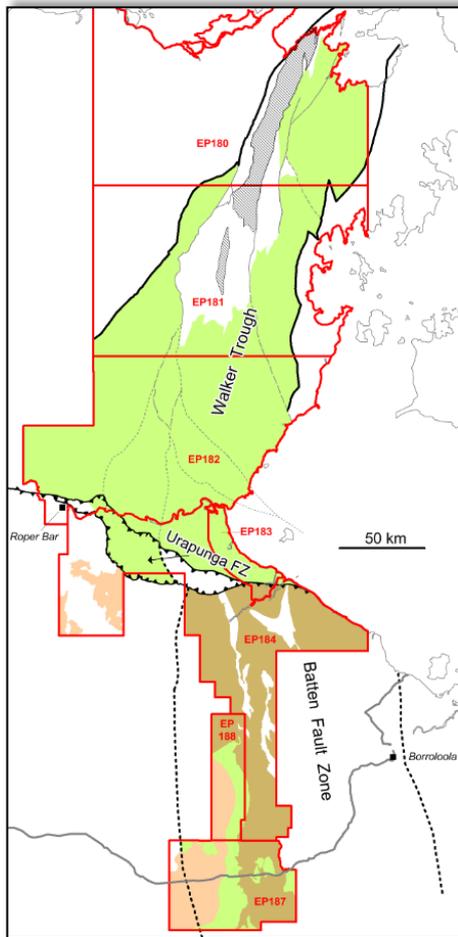
China - Sichuan/Tarim Basin
Proven 18 BBoe & 9 Tcf

Oman Basin
Proven 5.5 BBoe & 30 Tcf

McArthur Basin
Proven TBD

Common Risk Segment Approach

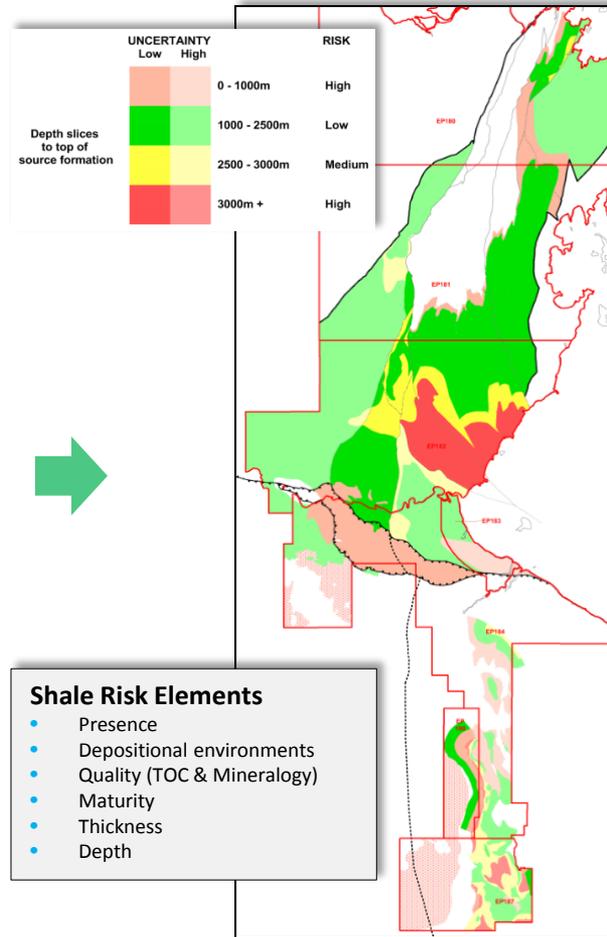
1. Play Fairway Definition



Formations with Potential Source Shales at Depth

- Velkerri Formation - ROPER GROUP
- Barney Creek Formation or Equivalent - MCARTHUR GROUP OR EQUIVALENT
- Wollgorang and/or McDermott Formations - TAWALLAH GROUP

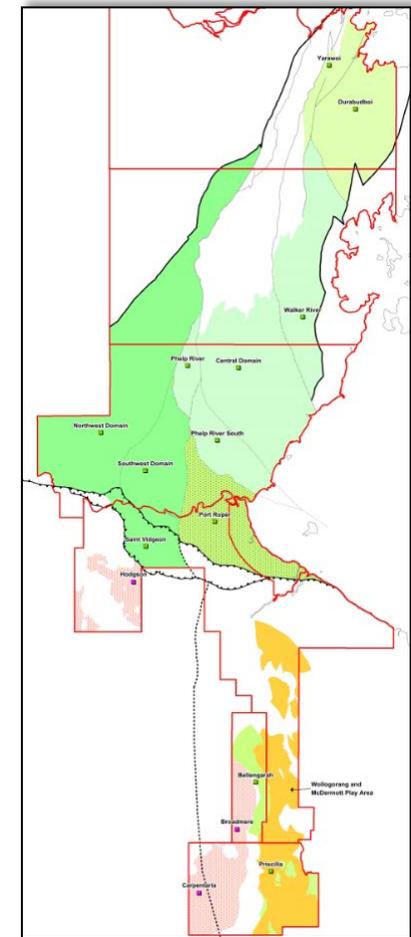
2. Common Risk Segments



Shale Risk Elements

- Presence
- Depositional environments
- Quality (TOC & Mineralogy)
- Maturity
- Thickness
- Depth

3. Prospect Definition



Prospect Evaluation & Resource Estimation for Tawallah Group not yet completed

- Imperial WI = 100% Royalties = ~12%
- Resource estimates are conservative
 - Total thickness of Velkerri & Barney Creek Shale assumed ~350ft, but in some sections up to 1,500ft thick
 - Geological discount factor 50 - 75% to account for variation in rock quality and lack of data
 - Tawallah resource not included
 - No conventional petroleum
- Barney Creek is the primary target and only McArthur Basin formation to date to flow potentially commercial quantities of natural gas in wells drilled

Estimated Prospective Resources (Unrisked)

Shale Target	Acres*	Gas/Cond	P90	P50	P10
Barney Creek	4,844,000	Bcf	3,304	8,699	20,172
		<i>MM bbl</i>	<i>66</i>	<i>174</i>	<i>403</i>
Velkerri	628,000	Bcf	383	1,192	3,086
		<i>MM bbl</i>	<i>8</i>	<i>24</i>	<i>62</i>
Tawallah	~2,200,000		n/a	n/a	n/a
TOTAL	7,672,000	MM BOE**	689	1,847	4,341

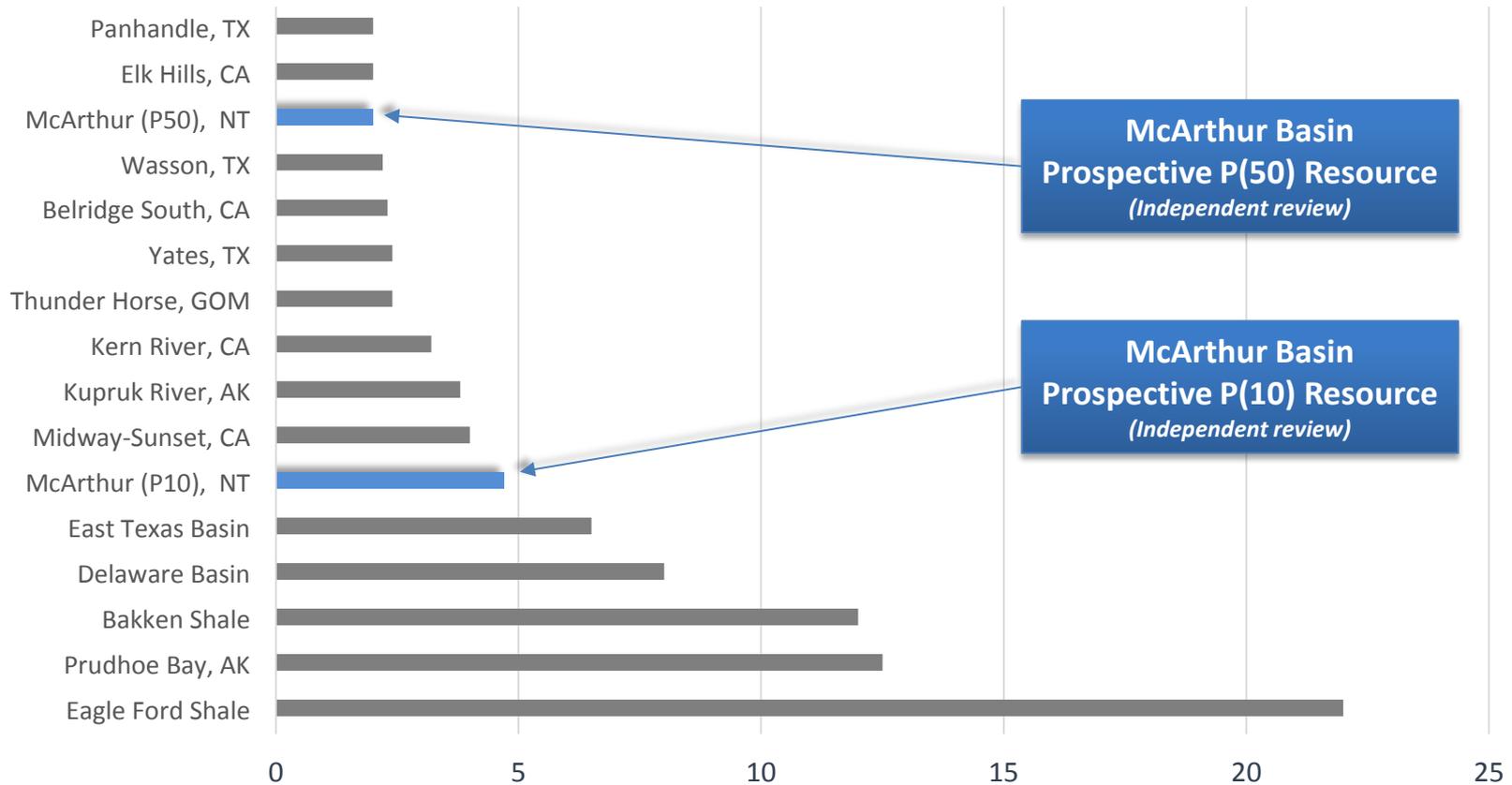
* Based on P10 calculations

** Conversion Factor 6 :1 for Bcf to MMBOE

The Prospective Resource (total hydrocarbon resource) - estimated by Muir and Associates Pty Ltd (MAA) & Fluid Energy Consultants (FEC)

“Prospective Resource”– This estimate of prospective petroleum resources must be read in conjunction with the cautionary statement on page 4.

USA Fields (BBoe)

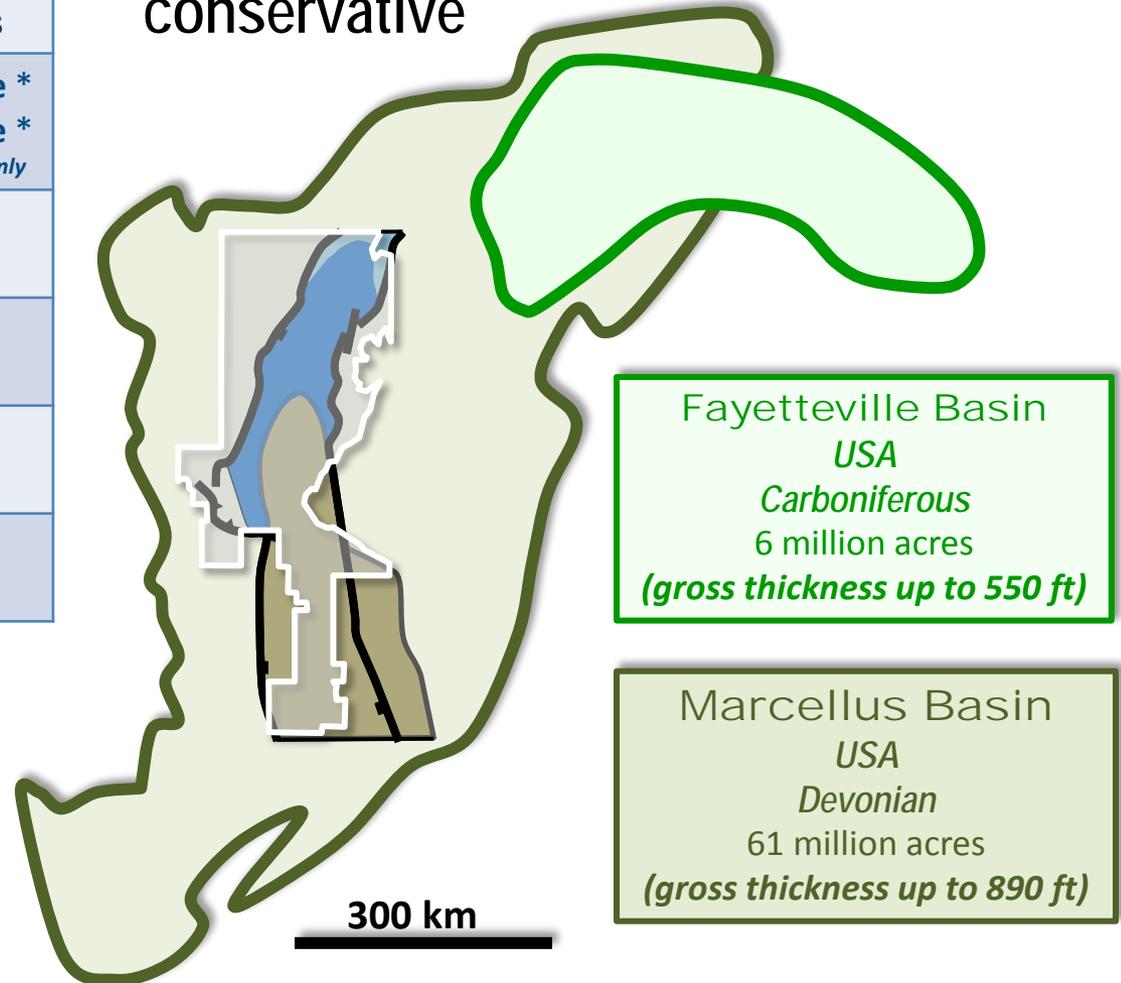


Source: Advanced Energy Strategist, Feb 19, 2015

“Prospective Resource”– This estimate of prospective petroleum resources must be read in conjunction with the cautionary statement on page 4.

Basin	Prospective Area km ² (million acres)	Un-risked Prospective Resources
Imperial Licenses	22,258 (5.5 mm)	P10 24 Tcfe * P50 10 Tcfe * <i>*BCF & Velkerri only</i>
Marcellus	246,000 (61 mm)	262 Tcfe
Fayetteville	23,309 (6 mm)	42 Tcf
Haynesville	23,310 (6 mm)	251 Tcf
Barnett	12,950 (3.2 mm)	44 Tcf

Imperial's resource estimates are conservative



McArthur Basin
Imperial Acreage
Palaeo-Proterozoic
5.5 million acres
(gross thickness up to 3,000 ft)

Fayetteville Basin
USA
Carboniferous
6 million acres
(gross thickness up to 550 ft)

Marcellus Basin
USA
Devonian
61 million acres
(gross thickness up to 890 ft)

US basin scale comparison only. No actual geographic overlap.

Modified after Modern Shale Gas Development in the US; a Primer. US Department of Energy April 2009

"Prospective Resource"— This estimate of prospective petroleum resources must be read in conjunction with the cautionary statement on page 4.

- **Unconventional resource development**

- Exploration / appraisal to full field production for maximum shareholder value

- **Targeting & landing-point optimization**

- Identifying the best interval for cost effective horizontal drilling and post-frac production



- **Drilling & completion techniques optimized across US Shale plays**

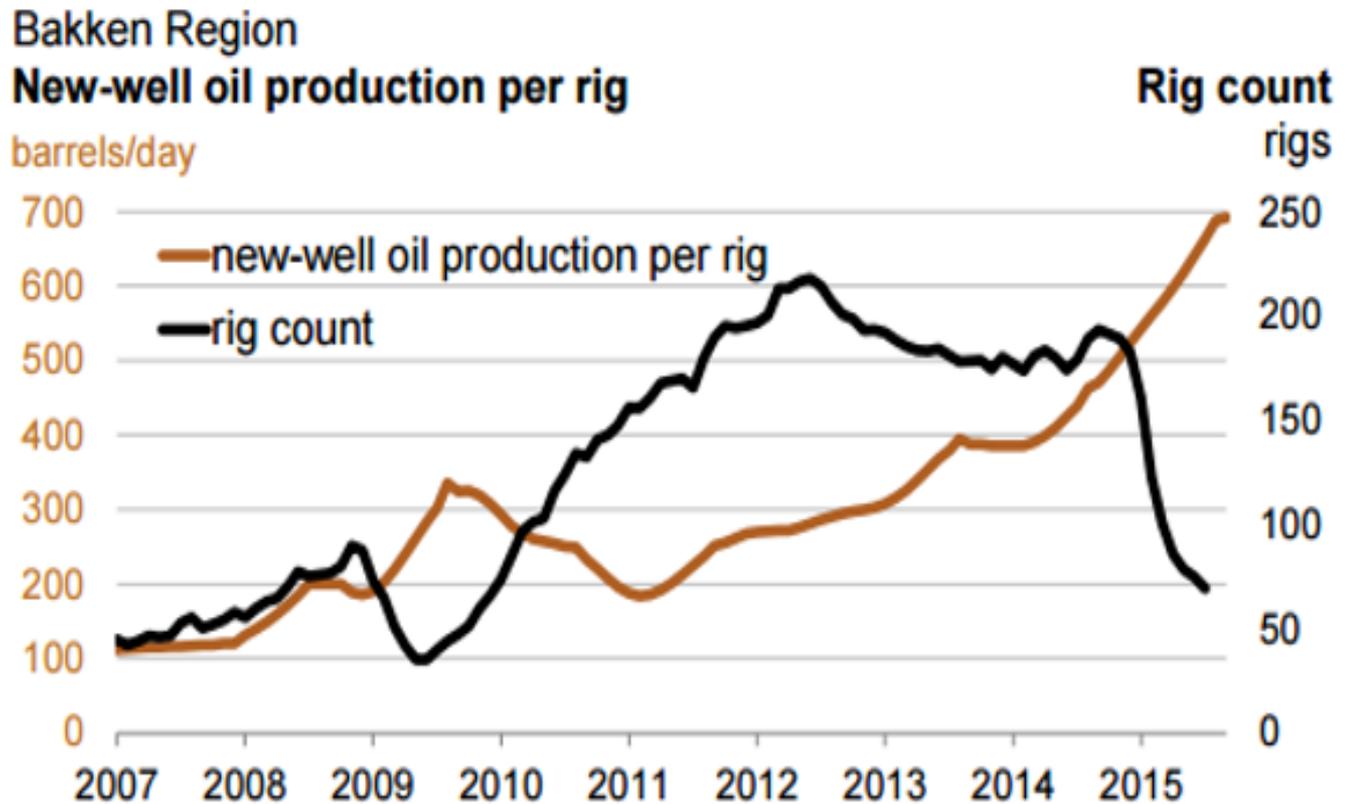
- Proven bit / BHA designs and processes focused on subsurface conditions and performance results
- Air drilling techniques perfected in Fayetteville, Utica & Marcellus
- Proven perforating, fracturing, production and facility design strategies conceptualized by simulation models and validated by production results across multiple basins

- **Value engineering**

- Experienced subsurface & operations team and executive management with a track record of success having 'cracked the code' on multiple US plays, and currently focused on Northern Territory
- Nimble & flexible approach combined with standard operating procedures proven to minimize NPT*, minimize cost volatility, identify value and maximize high return low cost horizontal wells
- Operation ROC** processes to systematically attack cost at a detailed line-item basis

Note: *NPT: non-productive time; **Operation ROC is an AELP cost reduction campaign & program which resulted in significant D&C cost savings across all affiliated operating companies

Why In-house Expertise Counts

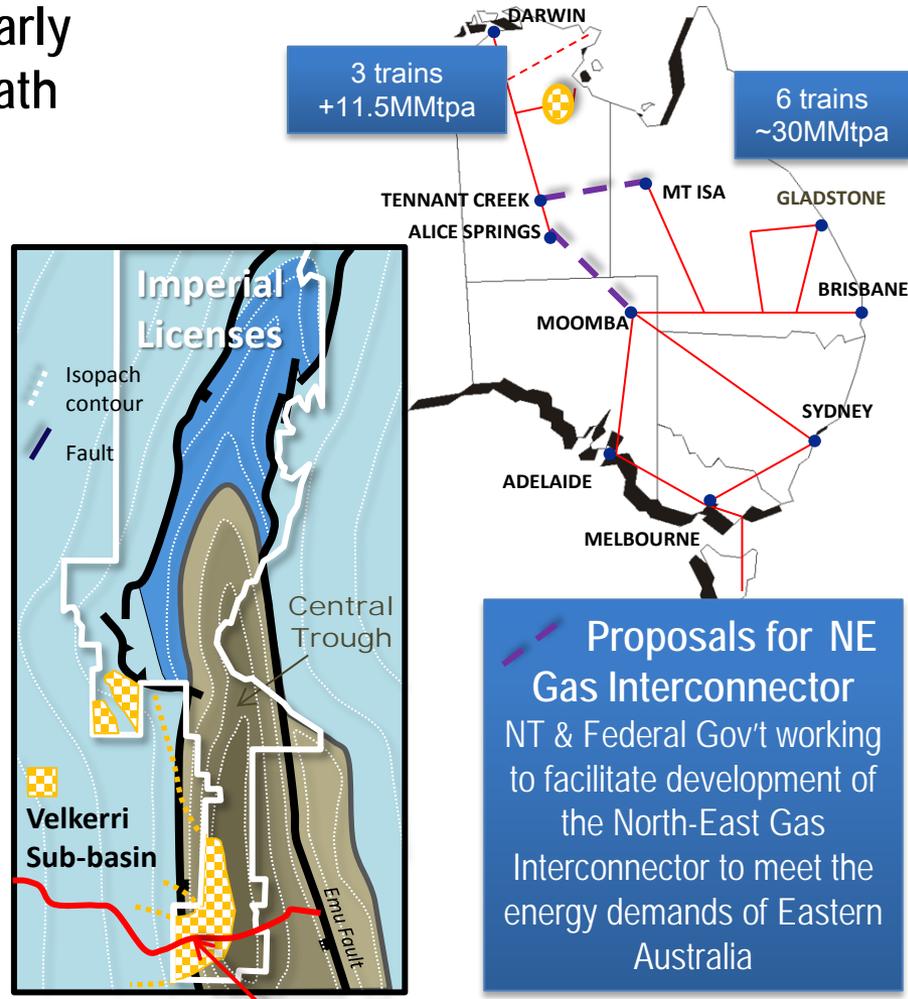
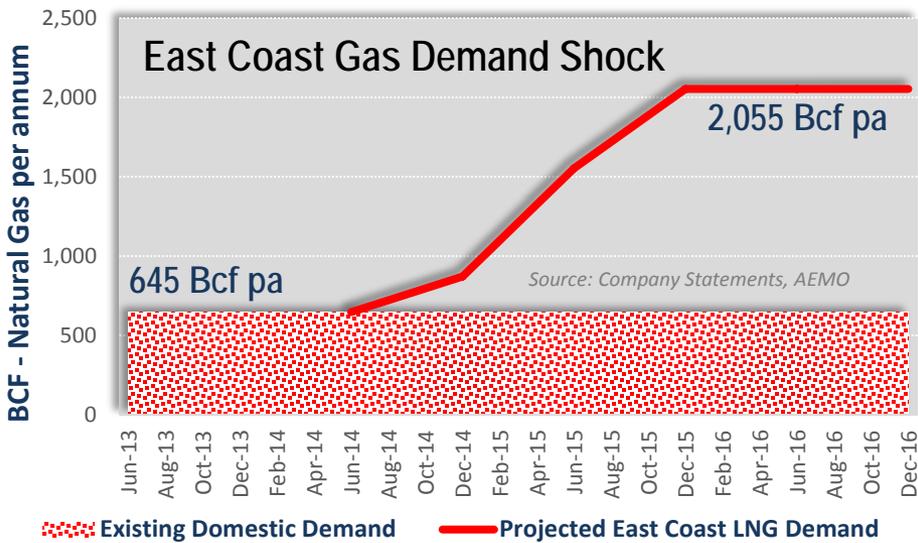


Imperial has a unique opportunity for very early stage development with target located beneath & aside an existing pipeline & roadway

Stage 1 - Velkerri Shale Potential

Potentially both conventional & unconventional play
 Estimated Resource (P50) ~1.2Tcf
 Volumes based on:

- Formations in EP187 & EP184
- Up to 390ft thick net pay
- TOC up to 7.5%
- Oil & Oil/Gas maturity



Existing gas pipeline to main N-S transmission line

Traditional Owners are supportive of Imperial's Plans



25 On-country meetings with Traditional Owners

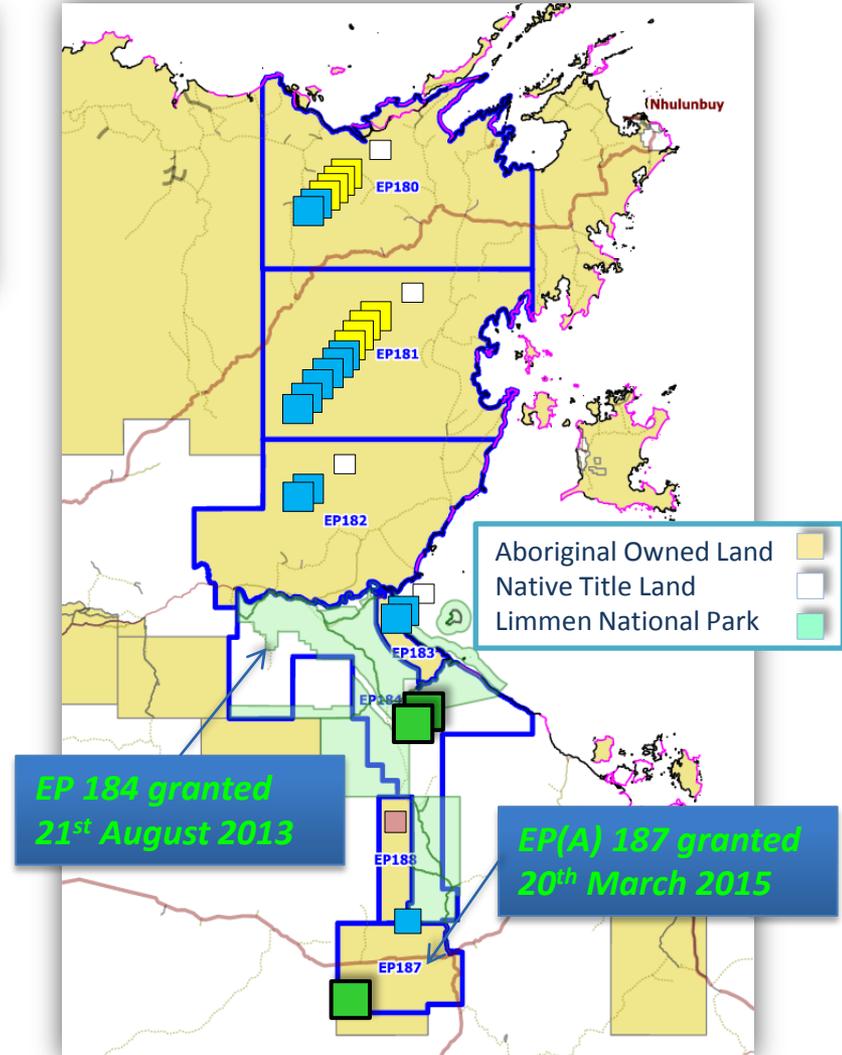
- 3 Final Agreements
- 13 Approved to negotiate agreement
- 8 Requested further discussion
- 1 Non-consented
- 4 final meetings if required

EP184 & 187

- EP 187 (along with 1 other) was the 1st ALRA license granted in NLC history
- EP 184 in early Yr 3 exploration program
- EP 187 in mid-Yr 1 exploration program

EP(A) 180, 181, 182 & 183

- Supportive TOs throughout Arnhem Land
- Documentation in final stages of negotiation



- Imperial a 100% owned subsidiary of EEG
- Non-binding US\$75 million Farm-in LOI with an affiliate of American Energy Partners to earn up to 80% WI
- High quality anoxic basin shale fairway
- Ancient source rocks with proven prolific analogues
- 3 shale oil & gas plays + conventional
- Scale & quality comparable with producing US plays
- Conservative P50 1,847 mm boe resource
- Multiple commercialisation options (early days)
- Supportive Traditional Owners

ASX: EEG

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Thank you

Imperial's Vision is safely to develop the petroleum resources while preserving cultural heritage, customs & natural environment

www.empireenergygroup.net

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 are based on NYMEX West Texas Intermediate (WTI).
- Gas prices are based on NYMEX Henry Hub (HH).
- 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.
- “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.
- “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.
- All volumes presented are net volumes and have had subtracted associated royalty burdens.
- 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 where 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 should increase if more data was available.

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
Allen Barron	Ralph E Davis Associates, Inc	BSc	Society of Petroleum Engineers
William Kazmann	LaRoche Petroleum Consultants, Ltd	MSc	Society of Petroleum Engineers
John P Dick	Pinnacle Energy Services, LLC	BPE	Society of Petroleum Engineers
Wal Muir	Muir and Associate P/L	BSc, MBA	Petroleum Exploration of Australia