



EMPIRE ENERGY GROUP LIMITED



Noosa Mining and Exploration Conference - July 2014



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Competent Person Report (USA)

For Empire Energy USA LLC, the information in this presentation which relates to reserves is based on information compiled by Ralph E Davis Associates Inc, Houston, Texas and LaRoche Petroleum Consultants, Dallas, Texas who are certified professional engineers with over five years experience. Neither Ralph E Davis Associates Inc., and LaRoche Petroleum Consultants nor any of the their employees have any interest in Empire Energy or the properties reported herein.



Corporate Snap-Shot

• ASX:EEG OTC-QX:EEGNY

• Share Price = \$0.10

• Mkt Cap = \$30mm

• Debt = \$41mm

• Cash = \$ 3mm

• EV = \$71mm

• GP EBITDAX = \$11.0mm

• EBITDAX/Int. = +6.0x

• Shares issued = 308mm

• Options issued = 23.2mm

Shareholders:

Macquarie Bank	17.4%
HSBS Custody Noms.	7.2%
WYT Noms.	3.1%
Armco Barriers	1.9%
Insiders	3.3%
Total Shareholders	~2,920
Av. Daily Volume (30 days)	95,595

Share price and volumes over the past year



EMPIRE energy

Empire Energy

Independent exploration and production company focused on the acquisition and development of conventional oil and natural gas reserves.

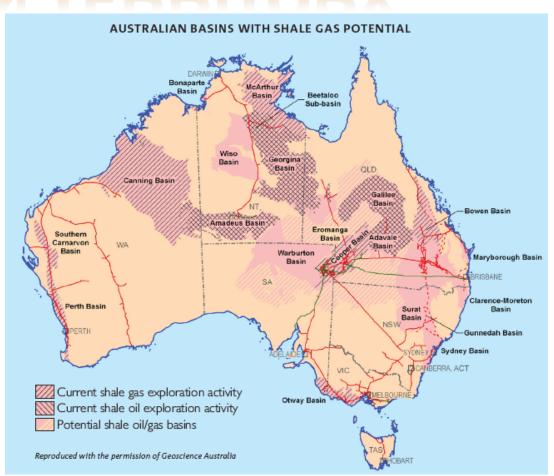
- Australian assets (Imperial Oil & Gas Ltd 100% subsidiary)
 - Tenements cover 14.6mm acres of McArthur Basin & Beetaloo Sub Basin
 - Barney Creek Shale Trough ~10 mm acres
 - Proven working hydrocarbon system
 - 100% ownership
- USA (Empire Energy USA, LLC 100% subsidiary)
 - Producing ~1,373 Boe/d
 - Proved Reserves (1P) = 8.3MMBoe
 - 1P PV10 = US\$107mm
 - 2014 drilling program ~21 wells
 - ~214,000 net acres Marcellus & ~136,000 net acres Utica Shale in NY



NORTHERN TERRITORY

Petroleum Exploration

Shale Oil & Gas Potential





Regional Geology

Comparatives

Northern Territory: McArthur Basin

118.6mm acres

Beetaloo Sub-Basin

14.3mm acres Imperial Oil & Gas

14.6mm acres

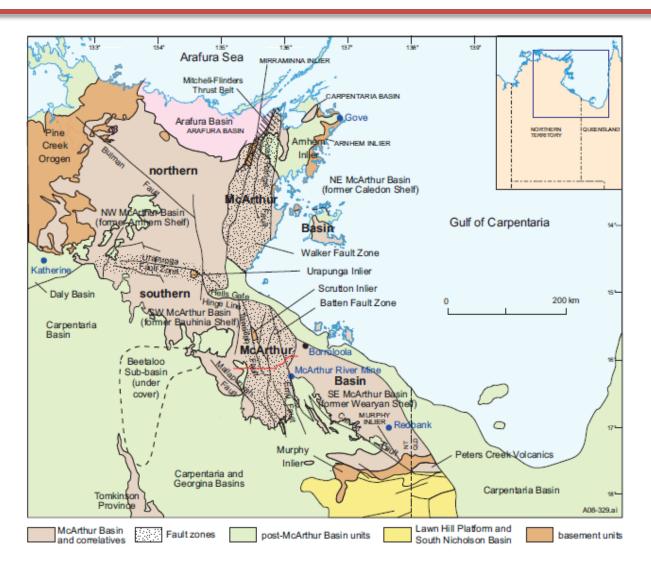
USA:

Marcellus Basin

49.4mm acres

Eagleford

12.0mm acres



Geological setting of the McArthur Basin (modelled after Rawlings 1999)





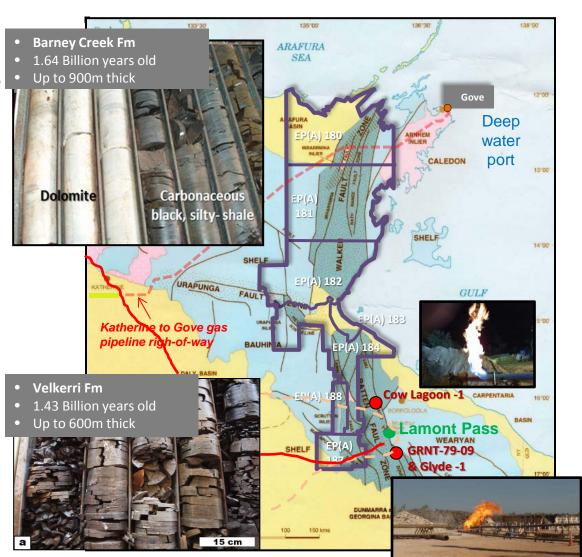
McArthur/Beetaloo Basin - Geology

Proven working petroleum systems

- McArthur Basin Trough Targets
 - Batten & Walker Fault Zones
 - Urapunga Fault Zone
- Barney Creek Shales
 - Palaeo-Proterozoic
 - Restricted basin anoxic sulphur-rich carbonaceous black gas shales
 - Shales up to 3,000ft thick
 - Over-pressured formation
 - Free flowing natural gas
 - Dolomite reservoir directly beneath shale formation

Velkerri Shales

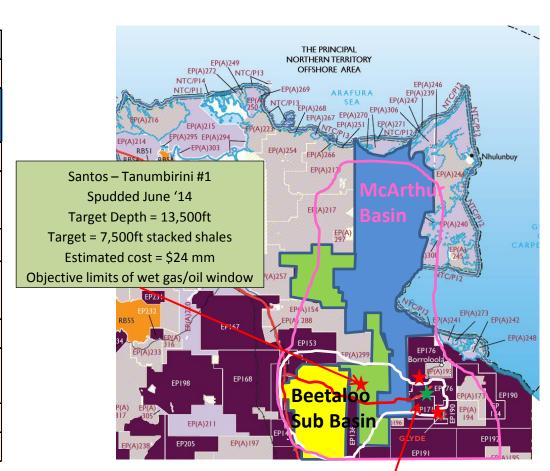
- Meso-Proterozoic
- Laminated black carbonaceous siltstones & mudstones
- Shales up to 2,000ft thick
- Over-pressured formation
- Recent wells flowed naturally
- Sandstone reservoir directly beneath shale formation





Regional Activity

	-	-		
Action	Dec-12	May-14	Current	
Lessor	Tamboran	Falcon O&G	Imperial O&G	
Мар				
Designation				
Farminee	Santos	Origin/Sasol	N/a	
	Beetaloo/	Dastalas	Beetaloo/	
Region	McArthur	Beetaloo	McArthur	
Acres	6.4mm	6.7mm	14.6mm	
Acres Net to	4.0	4.7		
farminee	4.8mm	4.7mm		
Cash	\$10mm	\$20mm		
Work	Ċ71 mama	Ċ0Fmm		
Commitment	\$71mm	\$85mm		
Earn-in	75%	70%	0%	
Period	3 yrs	3 yrs		



Armour Energy - Cow Lagoon: Dolomites - free flow gas 850m scf/d

- Lamont Pass 3 Bitumen, blooming, streaming oil, 1,600ft Barney Creek
- Glyde #1 Coxco dolomite free flow gas 3.3mm scf/d, 450ft Barney Creek
- Gas composition C1 77%; C2 11%; C3 11%; C other ~1%





McArthur Basin

Acreage

- 14,600,000 acres with carbonaceous shale formations
- ~10,000,000 acres of identified shale basin troughs
- Multi shale play targets

Targets

- Both conventional and unconventional oil & gas resources
- Barney Creek Shale (up to 3,000ft thick) with limestones/dolomites
- Velkerri Shale (up to 1,800ft thick) with limestones/dolomites

Leases

- EP 184 lease (Native Title) & EP 187 granted (ALRA)
- EPA 180/181/182/183/188(ALRA) completing negotiations.
- EPA's 180/181/182 expected to be finalised by end 2014

Monetisation

- Proximity to Darwin & Qld LNG plants, & deep water ports
- Natural gas shortfall on East Coast of Australia
- Liquids trucked to Darwin or Gove
- Close access to regional mines

Upside

- Potential Multi MMBO and TCF plays
- 'World Class' scale compared to USA Basins
- Size provides attractions to major corporate partners



Prospective Resource

Prospective Resource - Estimate

- Take-away
 Up until 2005 the Marcellus shale was thought to be a source/seal formation only?
- McArthur Basin is Frontier Exploration
- Exploration risk, BUT
- NT shales studied for 30+ years
- 30+ conventional traps identified
- An early stage resource estimate can be derived for Imperial's acreage......

- Volumetric Calculation of prospective hydrocarbons based on work by Crick et al.:
 - Velkerri bbl/ha =124,000 (Crick)
 - Barney Ck bbl/ha =105,000 (Crick)
- Prospective Resource Estimate (refer to Appendices):
 - Barney Ck P10 = 6,625.6 MMBoe
 - Velkerri P10 ₹1,007 MMBoe
- Comparatives (recoverable resources):
 - Bakken (active)* = 3,590 MMBoe
 - Eagle Ford (oil zone)* = 3,350 MMBoe
 - Marcellus (active)* = 178 Tcf



^{*} MBA Petroleum Consultant (2012)



De-risking exploration

	Strategy	Action		
<u></u>		Characterize shales and source rock potentials Strengthen the geological model		
	Convert contingent potential	ntingent potential Strengthen the geological model		
	resource to booked reserves	Core drilling		
igh Risk		Develop step out exploration targets and pilot wells		
		Reprocess available historical seismic & bore hole data		
	leverage data mining	Information mining		
	Leverage neighbour's exploration operations			
		Common risk segment mapping		
	Derisk	Prospect & lead inventory		
		Independent Peer certification		
		Leverage people and knowledge		
	Commercialisation	Appraisal, development and production drilling		
	Commercialisation	Power generation local supply		
		Utilize and develop pipelines and deepwater ports, Darwin LNG		
Data analysis Outcrop mapping Existing sample analysis Geomodelling Common risk segment mapping Prospect & lead inventory Outcrop mapping	Geomodelling Core drilling Sample analysis Field mapping Update model odats	decreasing level of risk		



Current Exploration Strategy

Strategy 2014/15

- Continue reprocessing available historical seismic
- Assess shale source rock potential
 - Core drill 4 to 6 wells EP 184
 - Geochemical and SRA characterisation of fresh source rock
- Undertake further outcrop mapping
- Compile Prospect Inventory
- Input sample analysis and mapping results to geological model
- Review & incorporate public data from neighbours
 - Santos drilling \$24mm well adjacent to EP 187 and EPA 188
 - Armour continuing program adjacent to EP 184 and EP 187
- Develop step out exploration well targets

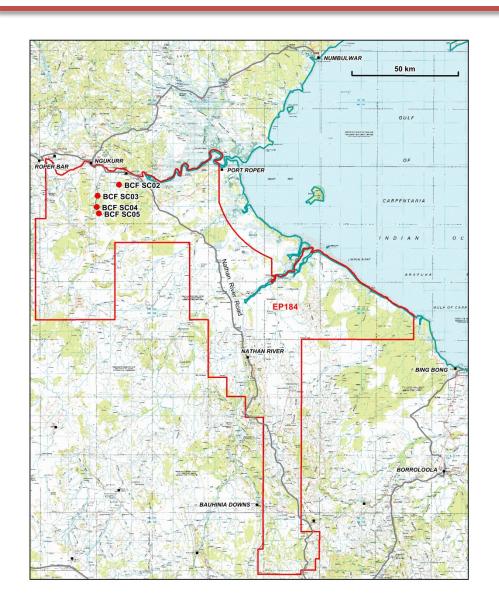
2014 Objectives - Urapunga Fault Zone (EP184)

- Characterise the shale of the Saint Vidgeon Formation
- Further strengthen the geological model
- Refine the Common Risk Segment maps





Current Program

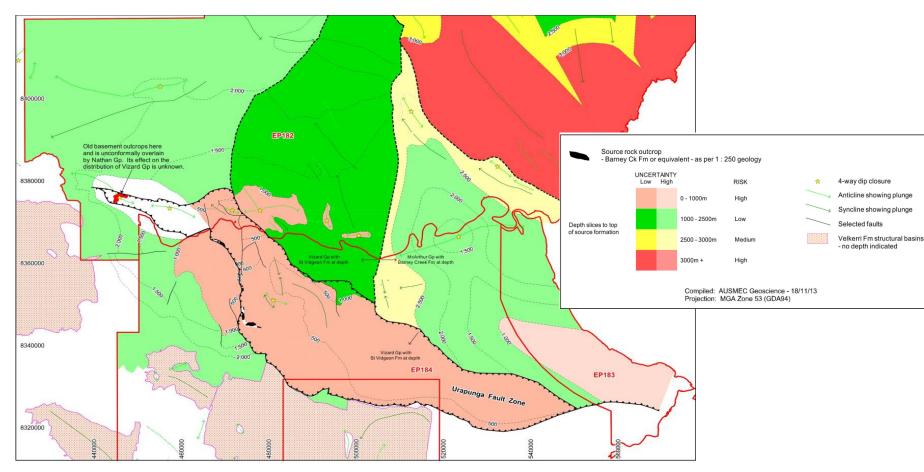


EP184 - 2014

- Reprocess & interpret seismic
- Develop hydrology study
- Development of CRS maps
- Prospects & leads inventory
- Core well drilling
 - 4-6 holes to be drilled July 2014
- Outcrop mapping



Common Risk Segment Map -182S & 184N



Urapunga fault zone

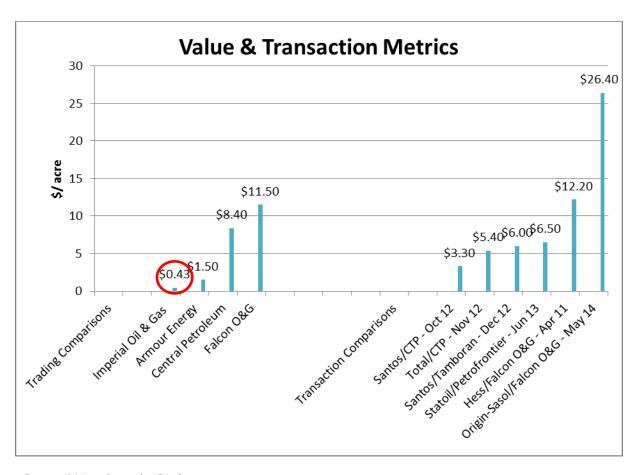
- Extensive Up to 500ft thick pay zone Barney Creek Fm & equivalents
- TOC up to 10.4 %







Assumed Imperial Oil & Gas Valuation = \$5mm



Sources: JP Moran Research, ASX releases





Value Add Takeaways

- Proven working hydrocarbon province
- 'World Class' scale compared to USA Basins
- Multiple Conventional & Unconventional targets
- Results from drilling over 2014
- Core drilling to develop 2015 step-out drilling plan
- Potential for partnering relationship with assets



Australia - Key Personnel

Bruce McLeod B.Sc (Maths), B.Com, M.Com (Econ) – Executive Chairman

- Chairman & CEO of Empire Energy Group Limited and Empire Energy USA, LLC
- Since the early 1990's management & financing of listed and unlisted resource & operating companies.
- Previously an Executive Director for BA Australia Limited a subsidiary of Bank of America, responsible for financial & capital markets.

Dr John Warburton – Director, Imperial Oil & Gas Pty Ltd

- 30 years technical and leadership experience in International Petroleum E&P including 11 years with BP and 4 years as General Manager Exploration & New Business for LASMO-ENI in Pakistan.
- Expertise covers the Middle East, Kazakhstan, Azerbaijan, North & West Africa, Pakistan, Europe, Australia, New Zealand, PNG, SE Asia, China, Korea and Japan.
- Published 28 internationally recognised technical articles with particular focus on petroleum exploration in complex fold and thrust belts.
- Responsible for traditional owner discussions and relationship development 2010 to 2014.

Geoff Hokin MSc(Hons) Geology – Exploration and Operations Manager, Imperial Oil & Gas Pty Ltd

- 10 years experience as an exploration and operations geologist in the unconventional gas and coal sectors, with various senior geologist roles including Armour Energy Limited, Metgasco Limited and Arrow Energy Limited.
- Background in Geological and Geophysical Exploration and Basin Setting Analysis and has extensive geological and business experience to non executive company director level in other operations.
- Responsible for traditional owner discussions and relationship development for Imperial 2012 to 2014.

Australian Shale Research Group (ASCS), University of Adelaide, SA

Imperial Oil & Gas has entered into a Research Agreement with ASCS to provide geological analysis and interpretation services for Imperial's exploration leases in the McArthur Basin. ASCS consists of a number of highly qualified geologists, petroleum engineers and laboratory technicians. A number have extensive commercial experience.

Professor Martin Kennedy - Responsible for ASCS

- Professorships in geology & geochemistry, University of Adelaide and California.
- Expertise in carbonate systems & controls of organic rich source rocks.
- Previously 12 years at a research position at the Exxon-Mobil Upstream Research Company.
- Recent research on nano scale processes that control porosity, TOC and fracability in unconventional reservoirs.

Dr Paolo Abballe

- Project Leader focused on geochemistry, sequence stratigraphy and data interpretation.
- Extensive experience with a marine geology background and specific expertise in compound specific isotope values of organic carbon in sediments.



Appendices



Summary of Preliminary Results

Source Unit (Core sample analysis from historically acquired cores throughout the McArthur Basin. Analysis by Adelaide Research & Innovation Australian Shale Carbon Sequestration Group)	Velkerri Shale	Barney Creek Shale	
Samples Taken	68 (35 for SRA)	133 (89 for SRA)	
TOC	Up to 7.5%	Up to 10.4%	
TOC – target zones	2.0% to 7.5%	1.6% to 10.4%	
Pay zones (ft)	Up to 500ft	Up to 500ft over 3,000ft of shale	
T _{max} & Hydrogen Index (HI)	Late immature/ mature	Late mature/ mature	
Window	Oil, oil/gas	Oil, oil/gas	
Generation Phase/Kerogen Type	Marine/II	Marine/I & II	
Calc. % R _o , S1, S2 & HI	Good to excellent zone Good to excellent		
Porosity	N/a	0.11% to 6.86%	
Av Porosity	N/a	2.25%	
Av Permeability	N/a	N/a 🗲	



Migrated Oil Volumes from Core

Source Unit Well	Barney Creek GR-10	Velkerri - Lansen Creek Broadmere 1 Urapunga	
Gross Interval (ft)	120-820ft ⁽¹⁾	88-508ft	433-715ft ⁽²⁾
Effective Net Source (ft)	500ft	330ft	330ft
Av Rock-Eval Data:			
Hydrogen Index	727	320	390
S1 (kg/MT)	2.3	2	4.2
S2 (kg/MT)	21.4	10.9	19.3
Van Krevelen Kerogen Type	I	II	II
Transformation Ratio*	0.23	0.49	0.32
(Bbl/ha x 10³)	105	168	80
 (1) Additional further Effective Source of 130ft at 2,000-2,130 (2) Additional further Effective Source of 133ft at 1,064-1,200ft * Based on initial HI of 800 for Type I and 500 for Type II Kerogen 			

Information sourced from a Report by:- Crick, I. H., Boreham, C. J., Cook, A.C., & Powell. T.G. 1988 Petroleum Geology and geochemistry of Middle Proterozoic McArthur Basin, Northern Australia II: assessment of source rock potential. AAPG Bulletin, 72. 1495-1514



Preliminary Contingent Prospective Resource

Unconventional Prospective Contingent Resource Total Estimated Oil Volumes Generated (mmBbl)						
Lead	Areal o Squar	losure e Klm	Velk	erri*	Barne (& equiva	
	P50	P10	P50	P10	P50	P10
EP180 (Habgood)	303	2,374			3,182	24,927
EP181	2,939	2,603			30,854	27,332
EP182	3,547	4,333			37,244	45,497
EP183		260				2,730
EP184	185	2,749			1,943	28,865
EP187 Barney Creek		86				903
EP187 Velkerri		1,154		14,310		
EP188 Barney Creek	313	215			3,287	2,260
EP188 Velkerri		471		5,840		
Total	7,287	14,245		20,150	76,508	132,512
P10 total of OOIP (mmBbl)						152,662
P10 Theoretical recoverable resource at 5% (mmbl) 7,633						

^{*} Avg bbl/ha = 124,000 (Crick I et al. 1988)

The unconventional Prospective contingent Resource Total hydrocarbon was estimated through a depth map to the top of the Barney Creek Formation, constructed by Ausmec Geoscience using data from mineral wells and surface geology, combined with an estimate of the thermal maturity provided by the Adelaide Research Institute. Calculations of prospective hydrocarbons are based on the Report by: Crick, I. H., Boreham, C. J., Cook, A.C., & Powell. T.G. 1988 Petroleum Geology and geochemistry of Middle Proterozoic McArthur Basin, Northern Australia II: Assessment of source rock potential. AAPG Bulletin, 72. 1495-1514. Prospective Resources under this classification are as yet undiscovered and as such carry significant exploration risk.

NB: Estimates are not peer reviewed and are preliminary based on previous academic papers and early stage risk segment mapping. Independent third party analysis will be undertaken following stratigraphic drilling programs

^{**} Avg Bbl/ha = 105,000 (Crick I et al. 1988)





Australia

Empire Energy Group

Level 7, 151 Macquarie Street

Sydney NSW 2001

Ph: +61 (0)2 92511846

Email: info@empiregp.net

www.empireenergygroup.net