

# **Armour Energy**

- Company Presentation
- August 2013
- ASX:AJQ







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The resource estimates used in this announcement were, where indicated, compiled by MBA Petroleum Consultants, and detailed in the Independent Expert's Report, Replacement Prospectus dated 20 March 2012 for Armour Energy (Chapter 9). Raymond L Johnson Jr., General Manager Exploration and Production for Armour Energy, is qualified in accordance with the requirements of ASX listing rule 5.11 and has consented to the use of the resource figures in the form and context in which they appear in this presentation.

- Experienced Board and Management with a proven track record of creating significant shareholder value
  - Arrow Energy, Bow Energy, Eastern Star Gas, QGC
- Strong technical team with philosophy of detailed technical evaluation and assessment
- Prudent capital management with focus on shareholder value
- First mover advantage in multiple basins with proven working hydrocarbon systems
- QLD & NT acreage held 100% with surrounding permit holders having already partnered with several oil and gas majors and super majors



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Barnett Shale in Fort Worth Basin Armour's portfolio Northern Territory & Queensland Tenements includes areas 66,315 km<sup>2</sup> 133,288 km<sup>2</sup> larger than comparable US plays TEXAS **Eagle Ford Shale** 47,315 km<sup>2</sup> N.T. QLD Armour is a major W.A. shareholder and maintains an ongoing program with Lakes Oil in N.S.W. Victoria 1000km VIC Gas pipeline Victoria Tenements 4

# **QLD and NT - proximity to target markets and infrastructure**

Darwin

LNG Export ~750 PJ p.a.

• Gove

Bayu/Undan to Darwin

Blacktip to

Cosmo Howley

Ichthys

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### Armour is in five separate basins with proven hydrocarbon systems



## 100% owned tenements in a large, new petroleum province

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## Queensland asset highlights - ATP 1087 & ATP 1107(A)



### Permits

- ATP1087 (100% owned 7,136 km<sup>2</sup>)
  - all permits and approvals in place, including access and Native Title Agreements
- ATP1107(a) (100% owned 7,943 km<sup>2</sup>)

### Resources

- Lawn Shale
  - 22.5 Tcf mean prospective gas resource (MBA)
- Riversleigh Formation
  - targeting 18 Tcf unconventional gas
- Conventional resources
  - targeting 1.8 Tcf

### **Other highlights**

- Strong / good quality gas shows (negligible CO<sub>2</sub> detected) in a favourable depth range
- Close proximity to Mt Isa regional infrastructure (e.g. airport, road, rail, power stations, heavy industry, gas customers / pipeline (>100 TJ/day))
- Pilot drilling program (Egilabria 2) currently being undertaken with a further extensive list of prospects and lead inventory
- Low social impact area



- 2013 work program is fully funded
- Drilling up to five new wells across four permits in Armour's QLD and NT acreage
- Egilabria 2 DW1 Tests 587 metre lateral in the Lawn shale (1<sup>st</sup> dedicated fracture stimulated horizontal well in a non-conventional shale target within QLD)
- 6 months continued activity/news flow with potential company maker outcomes
- Airborne geophysical survey and ongoing G&G studies to high grade future targets

2013 work program and timetable								
ATP 1087 (QLD)	May	<u>Jun</u>	Jul	<u>Aug</u>	<u>Sep</u>	Oct	<u>Nov</u>	Dec
Drilling								
Egilabria 2 (vertical)								
Egilabria 2 DW1 (lateral)								
Egilabria 4 (vertical)								
Fracture Stimulation								
Egilabria 2 DW1 frac								
Flow back and testing								
Geophysical programs								
EP 176, EP 171, EP 190 (NT)				i i				
Drilling								
Myrtle Basin 1 (vertical)								
Lamont Pass 3 (vertical)				i				
Glyde Central (vertical)								
Independent Studies								

# Egilabria 2 (ATP1087) – very encouraging results, production test imminent





## Upcoming Egilabria 4 to extend and test new play targets

- Upcoming Egilabria 4 is to be a step-out well in the Lawn Shale, testing:
  - Riversleigh Siltstone as a new shale gas play
  - Basal Mesozoic (Carpentaria Basin) "pinch-out" play

Interpreted Seismic Section of Line 89BN-6 Showing Four Conventional Play Types



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# Exploring the new Riversleigh play - Egilabria 4 and airborne geophysical

- Proven gas shows when drilling overbalanced for oil targets by Comalco in1991
- Egilabria 4 to delineate Riversleigh in Egilabria Lawn Shale area
- Creates a stacked pay sequence underlying the Lawn Shale within ATP 1087
- Targeting 18 Tcf of Riversleigh Formation unconventional gas resources
- Airborne gravity and magnetic survey to high grade areas for further seismic and drilling



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## Glyde 1 discovery - 23 other conventional free-flowing targets



- In 2012, Armour achieved a 3.3 million cubic feet/day gas flare from Glyde 1 lateral well during air drilling and testing
- Reservoir is porous Coxco Dolomite at the base of Barney Creek Shale
- Lateral intersected 132 m of black, gas charged, naturally fractured Barney Creek shale source rock substantiating unconventional gas potential
- Three well program planned for H2 2013 testing similar play types to Glyde 1 ST1 well





# 2013 NT drilling program will test analogue structures and plays to Glyde 1

- Myrtle Basin well targets brecciated dolomites juxtaposed to the Barney Creek Shale
  - shallow target area with reports of gas flows while mineral drilling
  - located via gravity survey on structure similar to Glyde 1 ST1
  - similar brecciated stratigraphic traps
  - Myrtle Basin Area not assessed by DeGolyer and McNaughton in April 2013
- Lamont Pass and Glyde Central target structures assessed by DeGolyer and McNaughton in April 2013
  - multiple targets in 1700-1800m depth range
  - Iocations optimised using gravity survey data
  - targeting similar brecciated stratigraphic traps

# Example of Glyde Central Area which hosts structural analogues to successful Glyde 1 ST1

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Glyde 1

AO

# Victorian asset highlights – promising results, strong markets



### **EXISTING RESOURCES**

- Tight gas resource play
- Targeting gas reserves value ~\$2bn
- Potentially 6 billion tonnes brown coal

### **STRONG MARKETS**

- Extensive local infrastructure
- Victorian gas projected to \$8/GJ



### **PROMISING DISCOVERIES**

- Morey's gas condensate discovery
- Oil discoveries in Strzelecki and Rintouls Creek Formations

### **ARMOUR INTEREST**

- Option to purchase 50% of Lakes interest in PRL 2 for \$30m
- Armour own 51% of PEP169 and PEP166 with \$14m expenditure \$6.75m already completed
- Acquisition of up to 18.6% Lakes Oil (ASX:LKO)

# Queensland gas markets are facing a significant shortfall



- QLD CSG 2P gas reserves bookings are beginning to plateau
- An estimated 47 Tcf of 2P gas reserves are required to meet QLD's domestic and LNG export demand (6 trains @ ~24.7 mtpa capacity) over the next 20 years
- Current shortfall is estimated at >10 Tcf
- Several major East Coast Australia legacy gas contracts are due to expire at the same time the QLD LNG plants are being commissioned and supply is ramping up
- Supply from NSW CSG is not presently viable
- Cooper Basin unlikely to supply large volumes



#### Evolution of QLD 2P gas reserves

Source: QLD Department of Natural Resources and Mines



## Armour's gas is deliverable to Mt Isa and Gladstone



- Mt Isa current regional demand is ~40 PJ p.a. and APA's Carpentaria gas pipeline capacity is ~110 TJ/Day
- ATP 1087 phase 1 field development involves gas supply of up to ~80PJ p.a. to meet Mt Isa's current regional demand and then export ~110 TJ/day via APA's Carpentaria pipeline
- ATP 1087 phase 2 field development involves an expansion to up to 330 PJ p.a. to meet Gladstone LNG export facility demand (~1,500 PJ p.a.)
- Armour has signed a Heads of Agreement with APA Group to develop a gas pipeline network using additional and upgraded APA infrastructure



# Majors have entered the market around Armour's 100% owned NT portfolio



- NT tenements contain multiple stacked unconventional & conventional hydrocarbon targets
- Proven petroleum systems
- 29 million acres 100% Armour Energy, 5 tenements already granted (a further 14 under application as preferred tenderer)
- Large resource play areas
- Discovered excellent gas quality
- Low social impact
- Proactive stakeholder engagement
- 23 conventional gas prospects in the brecciated Coxco Dolomite – 264 BCF mean prospective resource
- Close proximity to existing gas pipelines and customers



- 1) *Fully funded 2013 multi-well exploration drilling and well testing campaign* commenced across both Queensland and Northern Territory permits. Ongoing activity/results create news flow over the next 6 months with the potential for a resulting major value re-rating
- 2) First mover advantage in multiple basins with proven working hydrocarbon systems. Very large 100% held acreage position (>130,000 km<sup>2</sup>) successfully secured ahead of prominent oil and gas players. Surrounding permit holders have already partnered with several oil and gas majors



3) Armour's acreage presents one of the very few real potential new sources of gas supply

capable of meeting the significant anticipated near term East Coast Australian gas shortfall. Armour's Queensland acreage currently boasts 22.5 Tcf gas Prospective Resource with the competitive economic advantage of being in close proximity to the Mt Isa regional infrastructure hub (airport, gas pipeline/customers (~110 TJ/day), rail, roads, etc)

4) <u>Experienced Board and management with proven track record</u> of delivering significant shareholder value



# Thank you.

# www.armourenergy.com.au



