

## Armour Energy Limited

21 September 2015

### 66% increase in Prospective Gas Resources in Northern Australia. Maiden Prospective Gas Resources in the Tawallah Group, McArthur Basin (NT) and in the Riversleigh Shale Formation (QLD)

#### Highlights:

- **Armour books maiden Prospective Gas Resources in the Tawallah Group, McArthur Basin (NT) and in the Riversleigh Shale Formation (QLD)**
- **Total Northern Australia Prospective Gas Resources increased from 34 Tscf to 57 Tscf, an increase of 66%**
- **97 new conventional closure leads identified in Northern Territory exploration tenements**
- **Shareholders advised to take no action in respect to the takeover bid by Westside Corporation**

The Directors of Armour Energy Limited (**ASX: AJQ; Armour**) are pleased to provide an update on its Prospective Gas Resources in the Northern Territory and Queensland, as set out in **Table 1**. The prospective resource assessment was performed independently by SRK Consulting (Australasia) Pty Ltd. More detailed information is set out in **Appendix 1**.

Armour's total Best Estimate Prospective Gas Resources in Northern Australia has increased from 34 to 57 Trillion cubic feet (Tscf), a 66% increase, as of September 2015, compared to resources previously reported. The update includes maiden Prospective Gas Resources from the Tawallah Group Unconventional Reservoirs in the McArthur Basin of the Northern Territory, as first announced by Armour on 29 April 2015, and the Riversleigh Shale located beneath the Lawn Hill Shale in ATP 1087, Queensland. In addition, a new combined inventory totalling 193 conventional leads and prospects in the Northern Territory can target 4.9 Tscf of Best Estimate Prospective Gas Resources.

Armour CEO, Robbert de Weijer, said *"It is still relatively early days, but as we continue to explore and appraise this hydrocarbon province, I am confident we will deliver commercial outcomes. To put it into context, one trillion cubic feet of gas can provide enough energy for one million people for 20 years, and our best estimate of prospective gas resources has been upgraded to 57 trillion cubic feet. Potentially there will be multiple major developments in this vast, sparsely populated area. The current prospective and contingent resources are certainly a great starting point, and the proposed North East Gas Interconnector pipeline between the Northern Territory and Queensland will enable major supplies of gas to flow to east coast markets. The fact that we have been able to partner with American Energy Partners testifies that these basins in Northern Australia could well become the next great hydrocarbon province on a global scale. American Energy Partners will bring world's best practice in exploration and development and US\$130million to this exciting project."*

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Previous (best estimate)		Updated (best estimate)	
<b>NT unconventional gas</b>	<b>Tscf</b>	<b>NT unconventional gas</b>	<b>Tscf</b>
Barney Creek Shale (EP171, 176) <sup>(1)</sup>	13.0	Barney Creek Shale (EP171, 176) <sup>(1)</sup>	13.0
		Wollogorang Shale, Tawallah Group <sup>(5)</sup>	6.9
		McDermott Shale, Tawallah Group <sup>(5)</sup>	10.1
<b>NT conventional gas</b>		<b>NT conventional gas</b>	
All leads and prospects <sup>(1)(2)(3)</sup>	2.6	All leads and prospects <sup>(1)(2)(3) (5)</sup>	4.9
<b>NT total gas prospective resources</b>	<b>15.6</b>	<b>NT total gas prospective resources</b>	<b>34.9</b>
<b>QLD unconventional gas</b>		<b>QLD unconventional gas</b>	
Lawn Shale (ATP1087) <sup>(4)</sup>	18.7	Lawn Shale (ATP1087) <sup>(6)</sup>	8.1
		Riversleigh Shale (ATP1087) <sup>(7)</sup>	14.0
<b>QLD total gas prospective resources</b>	<b>18.7</b>	<b>QLD total gas prospective resources</b>	<b>22.1</b>
<b>NT/QLD gas prospective resources</b>	<b>34.3</b>	<b>NT/QLD gas prospective resources</b>	<b>57.0</b>

**Table 1 – Armour’s updated Prospective Gas Resources – NT and QLD (best estimates, recoverable)**

**TABLE 1 FOOTNOTES- RESOURCE REPORTS**

<sup>(1)</sup> MBA Report, Conventional and Unconventional Prospective Resource Estimate EP 171 & EP 176, NT, October 2011

<sup>(2)</sup> D&M Report, Prospective Resources Attributed to Certain Prospects in Various License Blocks, NT, April 2013

<sup>(3)</sup> SRK Report, Coxco Dolomite Resource Evaluation Batten Trough, McArthur Basin, EP 171, 176, 190, NT, November 2013

<sup>(4)</sup> MBA Report, Unconventional Prospective Resource Assessment, ATP (A) 1087, QLD, November 2011

<sup>(5)</sup> SRK Report, SRK Report, Conventional and Unconventional Resource Assessment of the Wollogorang and McDermott Formations – Tawallah Group, NT, September 2015

<sup>(6)</sup> SRK Report, Lawn Hill Formation Prospective Gas Resources ATP 1087, QLD, September 2015

<sup>(7)</sup> SRK Report, Riversleigh Siltstone Formation Prospective Gas Resources ATP 1087, QLD, September 2015



On behalf of the board

Karl Schlobohm

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## About Armour Energy

Armour Energy Limited (ASX:AJQ) is an ASX listed junior exploration and production company focused on the discovery and development of world class gas and associated liquids resources in an extensive and recently recognised hydrocarbon province in northern Australia. Its exploration tenements in Northern Australia cover an area of approximately 139,000km<sup>2</sup> or 34 million acres.

Today's business environment with strong domestic and global demand for gas, gas prices trending towards LNG netback combined with proven shale extraction technologies and world class personnel, provides the Company with an extraordinary opportunity to define and ultimately develop a major new gas province.

Armour is focusing on the exploration of the McArthur, Isa Superbasin and Georgina Basins in the Northern Territory and Queensland, and in the onshore Gippsland Basin in Victoria in joint venture with Lakes Oil, for gas and associated petroleum liquids.

Since IPO in 2012, Armour has spent approximately \$60 million on a small proportion of its acreage in Northern Australia.

In September 2015 Armour agreed to acquire the Roma Self project in the Surat Basin, Queensland for \$13 million from Origin Energy. The assets are strategically located connected to the Wallumbilla gas hub including valuable gas storage capacity. On completion of the acquisition, the assets will offer Armour near-term production and cash flow opportunities through production of gas, oil and liquids, representing a potentially key source of funding for Armour Energy's overall growth strategy.

As announced to the ASX on 20 August 2015 AJQ signed a Letter of Intent (LOI) with American Energy Partners (AEP) for a US\$100 Million farm out of the Northern Territory Assets. This has subsequently been finalised with binding agreements for an upsized US\$130 Million farm-out to earn 75% interest, with US\$23 million accompanying cash payments. The farm-in is binding, subject to due diligence and Armour shareholder approval.

On 31 August 2015, Armour received an unsolicited takeover offer from Westside Corporation Limited. The Directors of Armour advise shareholders to take no action pending completion of Armour's Independent Expert's Report and Target Statement which will be issued shortly after despatch of the Replacement Bidder's Statement.

Further information regarding Armour Energy Limited is available on Armour's website at [www.armourenergy.com.au](http://www.armourenergy.com.au)

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### Competent Persons Statements

Information on the estimated **prospective resources** in this release relating to Armour Energy Limited exploration permits in northern Queensland and the Northern Territory, Australia, is based on an independent analysis conducted by SRK Consulting (Australasia) Pty Ltd and fairly represents the information and supporting documentation reviewed.

The review was carried out in accordance with the SPE Reserves Auditing Standards and the SPE-PRMS guidelines under the supervision of Dr. Bruce McConachie. Dr. McConachie meets the requirements of qualified petroleum reserve and resource evaluator as defined in Chapter 19 of the ASX Listing Rules and consents to the inclusion of this information in this release.

The estimated **prospective resource** review was carried out in accordance with the SPE Reserves Auditing Standards and the SPE-PRMS guidelines under the supervision of Mr. Luke Titus, Chief Geologist, Armour Energy Limited. Mr. Titus qualifications include a Bachelor of Science from Fort Lewis College, Durango, Colorado, USA and he is an active member of AAPG and SPE. He has over 17 years of relevant experience in both conventional and unconventional oil and gas exploration in various international hydrocarbon basins. Mr. Titus meets the requirements of qualified petroleum reserve and resource evaluator as defined in Chapter 19 of the ASX Listing Rules and consents to the inclusion of this information in this release. The **evaluation date** and confirmation for the estimates for the new reports was 21 September 2015.

### SPE-PRMS

Society of Petroleum Engineer's Petroleum Resource Management System - Petroleum resources are the estimated quantities of hydrocarbons naturally occurring on or within the Earth's crust. Resource assessments estimate total quantities in known and yet-to-be discovered accumulations, resources evaluations are focused on those quantities that can potentially be recovered and marketed by commercial projects. A petroleum resources management system provides a consistent approach to estimating petroleum quantities, evaluating development projects, and presenting results within a comprehensive classification framework.

PRMS provides guidelines for the evaluation and reporting of petroleum reserves and resources.

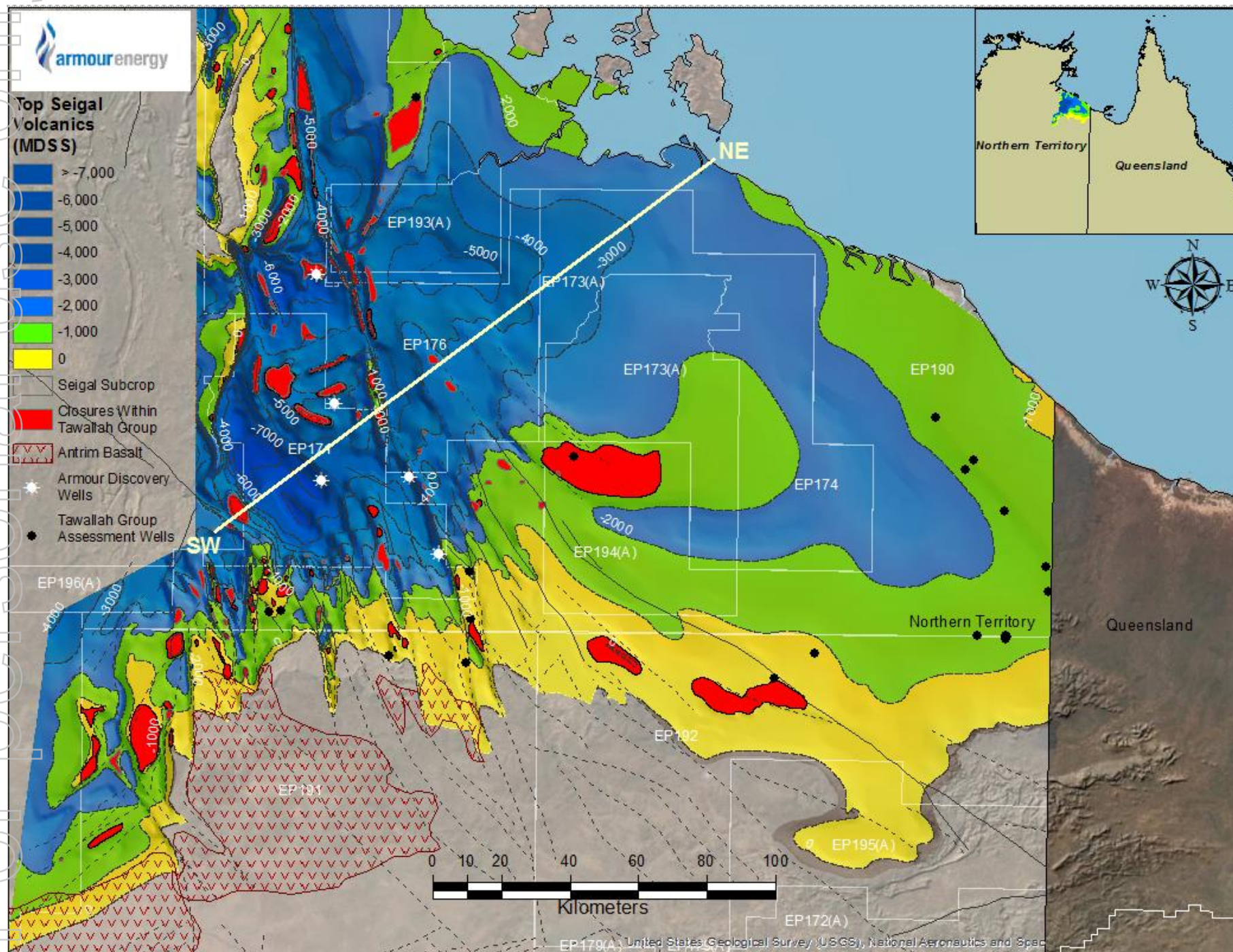
### Under PRMS

"Prospective resources" are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective resources have both a chance of discovery and a chance of development. Prospective resources are further subdivided in accordance with the level of certainty associated with recoverable estimates assuming their discovery and development and may be sub-classified based on project maturity.

### ASX Listing Rules Chapter 5, section 5.28.2

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.

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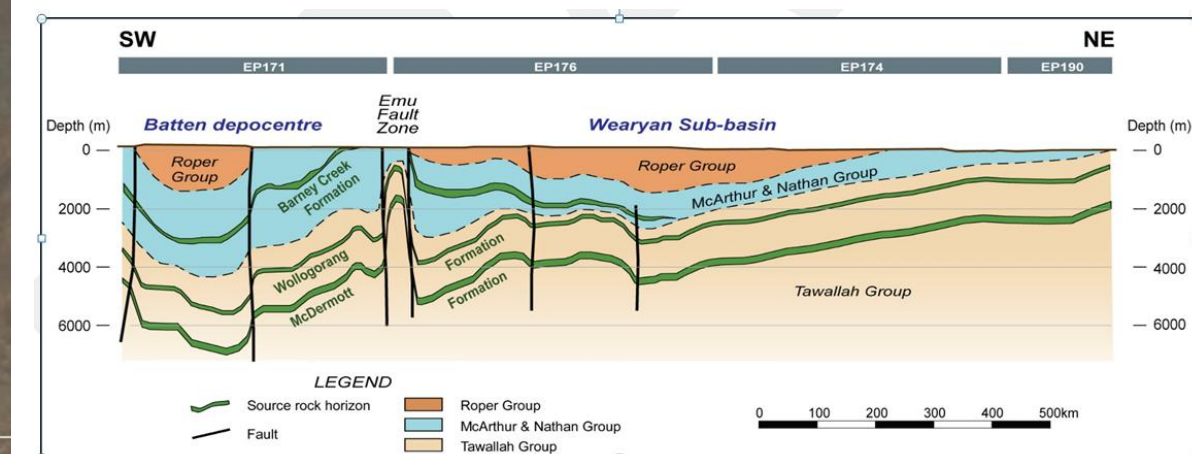
## Appendix 1

### Detailed Information on Armour's Updated Gas Prospective Resources

#### Northern Territory, Australia

**Map 1** – The extent of the newly recognised Tawallah Group source rock exploration play within Armour's permits mapped on Top Seigal Volcanics surface respectively (meters measured depth), reference **Stratigraphic Chart 1**. Source rock play area is currently estimated to be 52,000 km<sup>2</sup>. A combined 97 conventional closure leads with potentially hydrocarbon charged reservoirs in the Masterton Sandstone (MS), Wunumantyalu Sandstone (WS), Rosie Creek Sandstone (RC), Sly Creek Sandstone (SC) of the Tawallah Group. In addition the overlaying McArthur Group (MG) reservoirs discovered during Armour's 2012-2015 drilling/coring programs and accompanied ongoing studies and affiliations with the University of Queensland, Australian School of Petroleum, University of New South Wales, CSIRO, Unconventional Resources Solutions, Coho Energy, FROGTECH, Weatherford Labs (Australia), the Northern Territory Department of Mines and Energy and the Northern Land Council.

**Figure 1** – Schematic SW-NE cross-section of the recently discovered Tawallah Group Unconventional Reservoirs, reference **Stratigraphic Chart 1**.

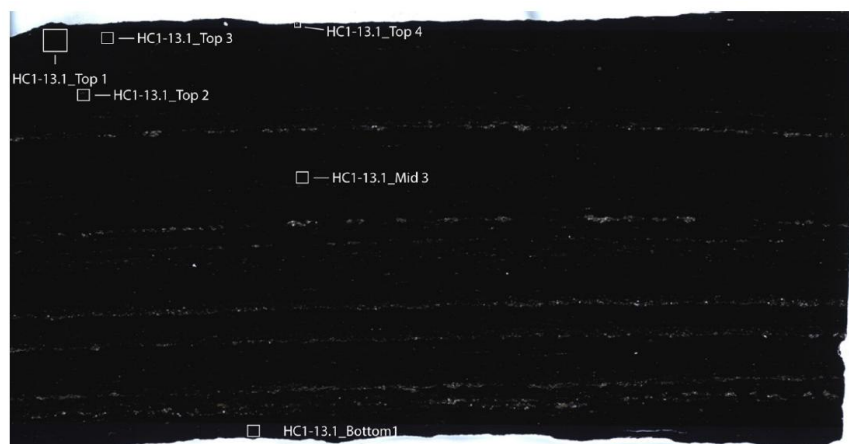


Armour engaged the services of SRK to provide an independent expert report on the Prospective Resources associated with the Tawallah Group in the company's 100% WI granted EPs 171, 174, 176, 190, 191, 192 and EP(A)s 173, 194, 195 and 196 on 21 September 2015. This is the first Prospective Resource Assessment conducted on the Wollgorang and McDermott Formations Unconventional Reservoirs and associated Conventional Reservoirs of the Tawallah Group.

SRK have reported that Armour Energy has a Best Estimate Prospective Recoverable Resources of 6.9 Tscf in the Wollgorang Shale Formation and 10.1 Tscf in the McDermott Shale Formation of the Tawallah Group (see **Tables 2 & 3**). Available source rocks sampled from historical well penetrations were analyzed by CSIRO and demonstrated these shales contain good source rock in the oil to wet gas generative window, based on total organic carbon (TOC) measurements of up to 7.7% and organic geochemical markers (see **Photo 1**). Their results have demonstrated the McDermott Formation shale core samples are currently within the gas-plus-condensate and/or gas-plus-oil windows and the Wollgorang Formation shale core samples are currently within the gas-window (see **Map 1, Figure 1 & Stratigraphic Chart 1**).

These organic-rich sections measured in the core samples are remarkably consistent considering the large distances between each, which is strong evidence of hydrocarbon presence in the remaining untested deeper basin areas. The extent of this newly recognised Tawallah Group source rock exploration play within Armour's permits is currently estimated to be 52,000 km<sup>2</sup> and is estimated to be 1000m to 1500m deeper than the overlying Barney Creek Formation shale that currently has a Best Estimate Prospective Recoverable Resource of 13 Tscf only in granted EPs 171 & 176, estimated area 11,504 km<sup>2</sup>.

The Wollgorang and McDermott Formation shales, occur stratigraphically below the Barney Creek Formation shale in the Batten region and extend the prospective fairway further east across the Wearyan Shelf into Armour Energy's permits EP 174 and 190 and south to the Barkley Tablelands EP 191 & 192. These formations have only been intersected in shallow mineral core holes to-date, all located around the periphery of the basin.



**Photo 1** – Organic rich thin section transmitted light photograph of DD91HC1-13.1 showing fine OM-rich muddy (black) and siliciclastic (translucent) laminae shale of the Tawallah Group; (scale ~5cm width).

**Table 2 – Wollgorang Shale Formation  
of the Tawallah Group**

Estimates of Recoverable Prospective Resource Wollgorang Shale			
Assessor	Low Estimate (Bscf)	Best Estimate (Bscf)	High Estimate (Bscf)
SRK Consulting (Australasia) Pty Ltd, Sept. 2015	5	6,900	141,404

**Table 3 – McDermott Shale Formation  
of the Tawallah Group**

Estimates of Recoverable Prospective Resource McDermott Shale			
Assessor	Low Estimate (Bscf)	Best Estimate (Bscf)	High Estimate (Bscf)
SRK Consulting (Australasia) Pty Ltd, Sept. 2015	26	10,120	152,107

**Table 4 – Wollgorang Closures  
within the Tawallah Group\*\***

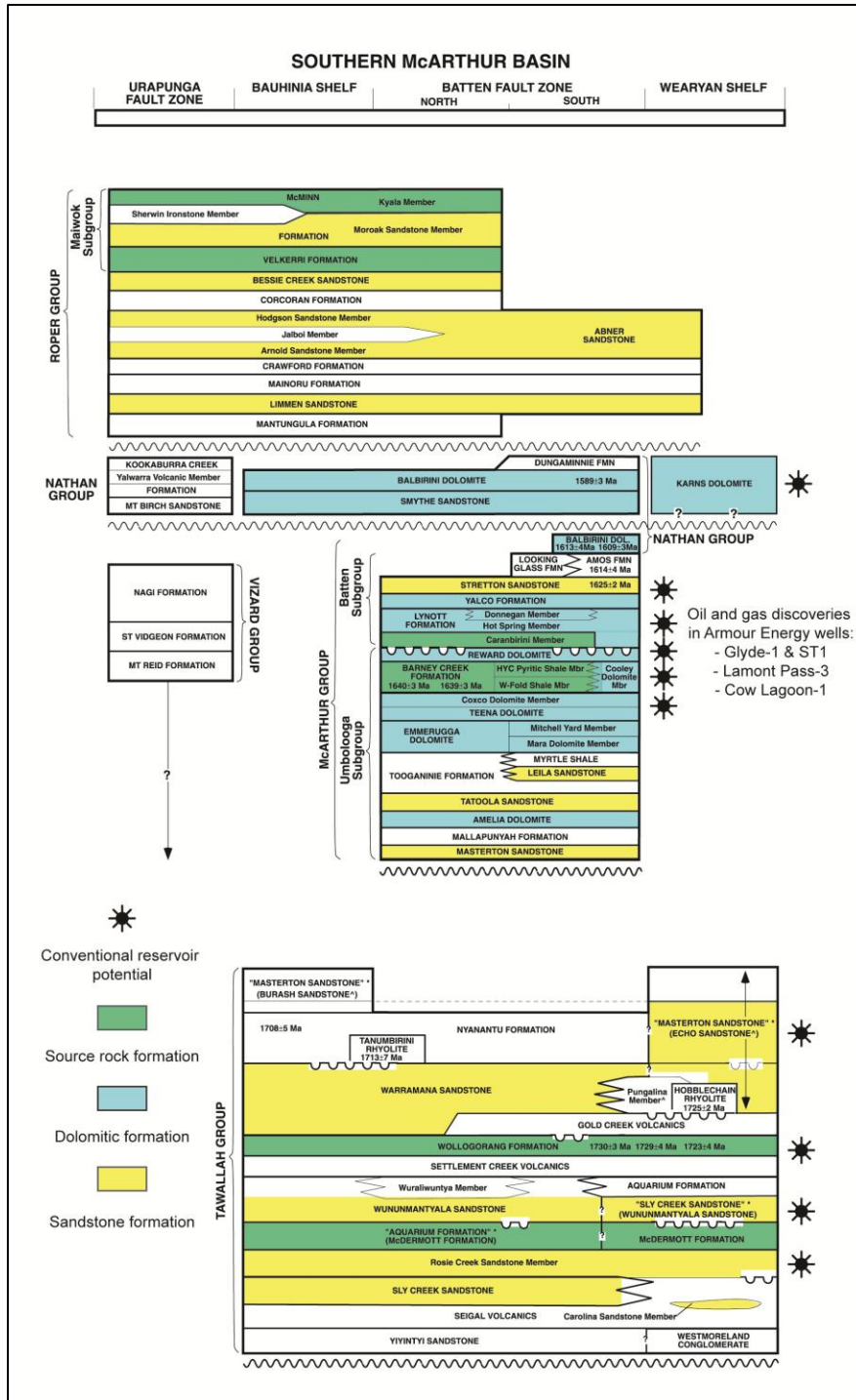
Estimates of Prospective Recoverable Conventional Closure Resource within the Wollgorang			
Assessor	Low Estimate (Bscf)	Best Estimate (Bscf)	High Estimate (Bscf)
SRK Consulting (Australasia) Pty Ltd, Sept. 2015	61	647	6,893

**Table 5 – McDermott Closures  
within the Tawallah Group\*\***

Estimates of Prospective Recoverable Conventional Closure Resource within the McDermott			
Assessor	Low Estimate (Bscf)	Best Estimate (Bscf)	High Estimate (Bscf)
SRK Consulting (Australasia) Pty Ltd, Sept. 2015	149	1,548	16,557

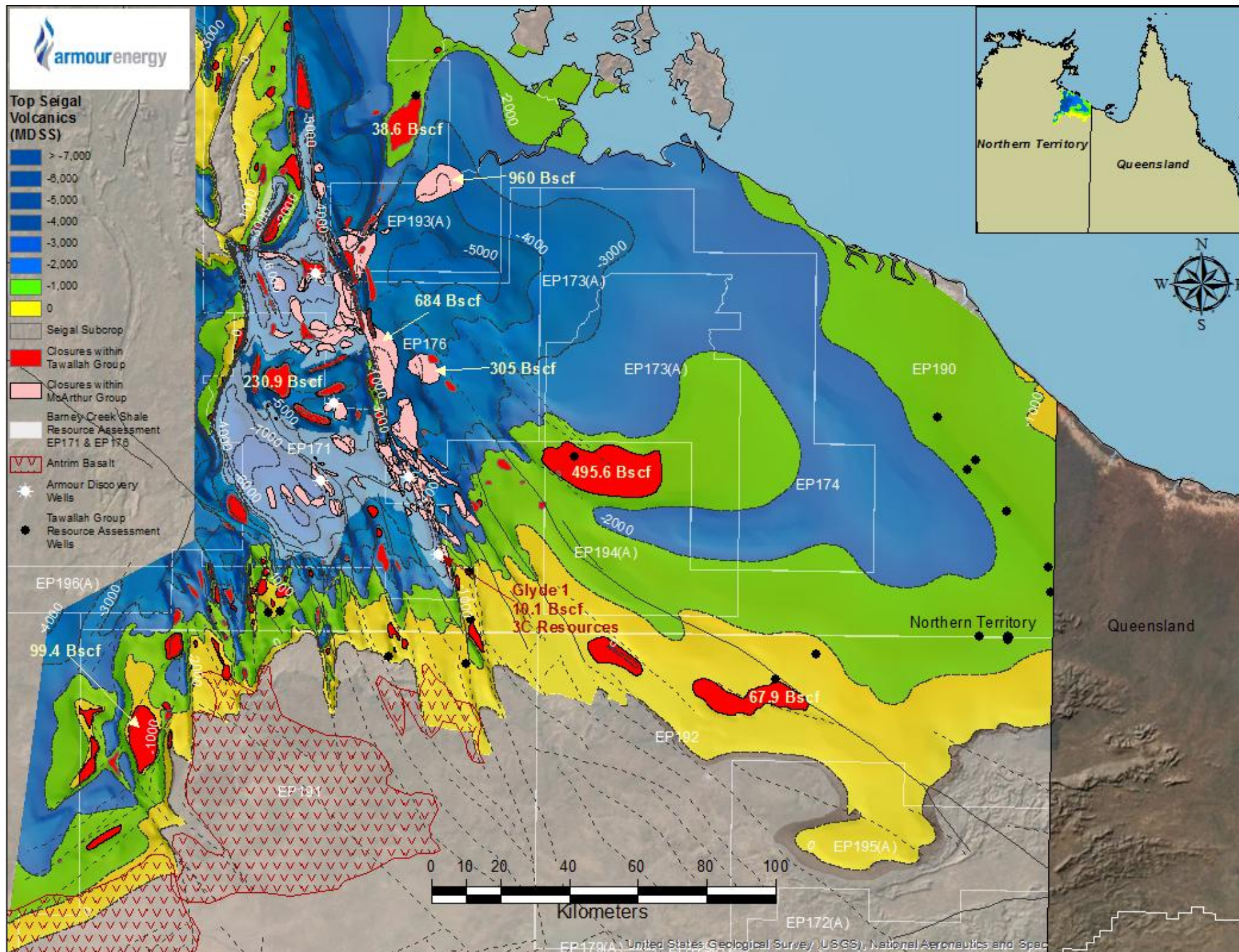
**\*\*A host of conventional reservoirs are likely to occur in Tawallah Group, including the Masterton Sandstone (MS), Wununmantlyala Sandstone (WS), Rosie Creek Sandstone (RC), Sly Creek Sandstone (SC) and additional hydrocarbon charge could be possible into the overlaying McArthur Group (MG), reference Stratigraphic Chart 1.**

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**Stratigraphic Chart 1 – McArthur Basin prospective source formations and prospective+contigent conventional reservoirs.**





**Map 2** – Armour’s permits mapped on Top Seigal Volcanics surfaces respectively (meters measured depth); reference **Stratigraphic Chart 1**. Tawallah source rock play area is currently estimated to be 52,000 km<sup>2</sup> targeting a Best Estimate of 17 Tscf of Prospective Recoverable Resource from the Tawallah Group source rocks (colored contours); the Barney Creek Shale Formation of the McArthur Group source rock play area EP 171 & 176 only- Best Estimated at 11,503 km<sup>2</sup> targeting 13 Bscf of Prospective Recoverable Resource (light grey filled area); 97 conventional closure leads within the Tawallah Group (red) and 96 conventional leads/ prospects within the McArthur Group only (light pink) targeting a total combined Best Estimate Prospective Recoverable Resource of 4.9 Tscf. Selected estimated prospective recoverable conventional closure resources for leads/ prospects (annotated in best estimate Bscf).



**Photo 2** – Glyde 1 discovery well, EP 171, flowed 3.3 MMscf from the Coxco Hydrothermal Dolomite (HTD) and currently has a booked 3C resource of 10.1 Bscf in an estimated 5.9 km<sup>2</sup> closure.

## Potential for conventional plays

Both the McDermott Formation and the Wollgorang Formation shales have the capacity to charge conventional closures like the Armour Glyde 1 Discovery well that flowed 3.3 MMscfd from the Coxco Hydrothermal Dolomite (HTD) of the McArthur Group, EP 171, in 2012. This discovery booked 10.1 Bscf of Contingent Resources in an estimated 5.9 km<sup>2</sup> closure (**see Photo 2**).

A combined total of 97 new closures with potential conventional reservoirs have been mapped on Top Wollgorang and Seigal Volcanics surfaces respectively and potentially sourced by the Wollgorang and McDermott Shales (**see Map 2**). These Tawallah closures range in size from 96.8 km<sup>2</sup> to < 1.0 km<sup>2</sup>. Estimates of Prospective Recoverable Resources for the closures associated within only the Wollgorang and McDermott are summarized in **Tables 4 & 5** with a combined Best Estimate of 2,195 Bscf. A host of conventional reservoirs are likely to occur in Tawallah Group, including the Masterton Sandstone (MS), Wunumantyalia Sandstone (WS), Rosie Creek Sandstone (RC), Sly Creek Sandstone (SC) and additional hydrocarbon charge could be possible into the overlying McArthur Group (MG).

In addition to the 97 Tawallah Group leads identified, SRK has previously identified 65 Coxco Dolomite leads/prospects with a Best Estimate of 2.25 Tscf, D&M has reported a Best Estimate 256 Bscf associated with 23 Coxco Dolomite leads and MBA has reported 8 leads with a Best Estimate of 170 Bscf for a total combined leads and prospects in the Northern Territory to 193 that targets a combined 4.9 Tscf (**see Map 2**). Further, regional and prospect scale seismic programs combined with the evaluation of multiple source rocks in new wells can offer early monetization opportunities while evaluating and defining the sweet spots in the various large basins within Armour's hydrocarbon province. A wide range of outcomes is possible however, and further definition and data acquisition is required to better define the best estimated prospective resource potential of the conventional closures.

## Queensland, Australia

Following the success Egilabria-2 and Egilabria-4 wells drilled during 2013 Armour has re-assessed the prospective resource base following the booking of 365 BCF of Contingent Resources in the Lawn Hill Shale Formation post hydraulic stimulation of well Egilabria 2 DW1. This has led to an overall increase of 3.4 Tscf of Best Estimate Prospective Recoverable Resource in ATP 1087. Maiden Best Estimate Prospective Recoverable Resource of 14 Tscf, reported on 21 September 2015 by SRK, from the Riversleigh Shale and a reduction of Prospective Resources of 10.6 Tscf following a deeper subsurface depth cut off and the booking of Contingent Resources at Egilabria 2 DW1 in the Lawn Hill Shale Formation (**see Table 6**). Armour's planned 2016 and 2017 work programs will further define the delineation of the resource fairway and sweet-spots for the Lawn Hill and Riversleigh Shales.

The Riversleigh Shale Formation is approximately 500m to 1000m deeper than the overlying Lawn Hill Shale Formation and offers the opportunity for stacked resource play development across an area of 4,200 km<sup>2</sup> (**see Figure 3**). Gas analysis of both the Egilabria 2 and Egilabria 4 predominately show a dry gas window with very low CO<sub>2</sub> and nitrogen percentages. In addition, reports of up to 6% Helium were noted while drilling and subsequent post-stimulation gas analysis showed a consistent 1% of associated Helium from

separator gas and TOC values up to 11%. The source plays in ATP 1087 and chronostratigraphically related to the NT source rocks (see Figure 2).

Armour looks forward to further appraising the prospects in ATP1087 by using several extraction techniques over the coming years. Recent support by the Queensland Government Department of Resources and Mines to extend the lease by 2 years and amendment of the work program are important steps in assisting Armour to exploit the technical options for unlocking the gas known to be present for the supply to regional markets and the broader east coast market (see Photo 3).

Estimates of Recoverable Prospective Resource Lawn Hill Shale**			
Assessor	Low Estimate (Bscf)	Best Estimate (Bscf)	High Estimate (Bscf)
SRK Consulting (Australasia) Pty Ltd, Sept. 2015	2,729	8,109	19,576

\*\*Total less Contingent Resources from Egilabria 2 DW1

Estimates of Recoverable Prospective Resource Riversleigh Shale			
Assessor	Low Estimate (Bscf)	Best Estimate (Bscf)	High Estimate (Bscf)
SRK Consulting (Australasia) Pty Ltd, Sept. 2015	3,876	13,985	39,448

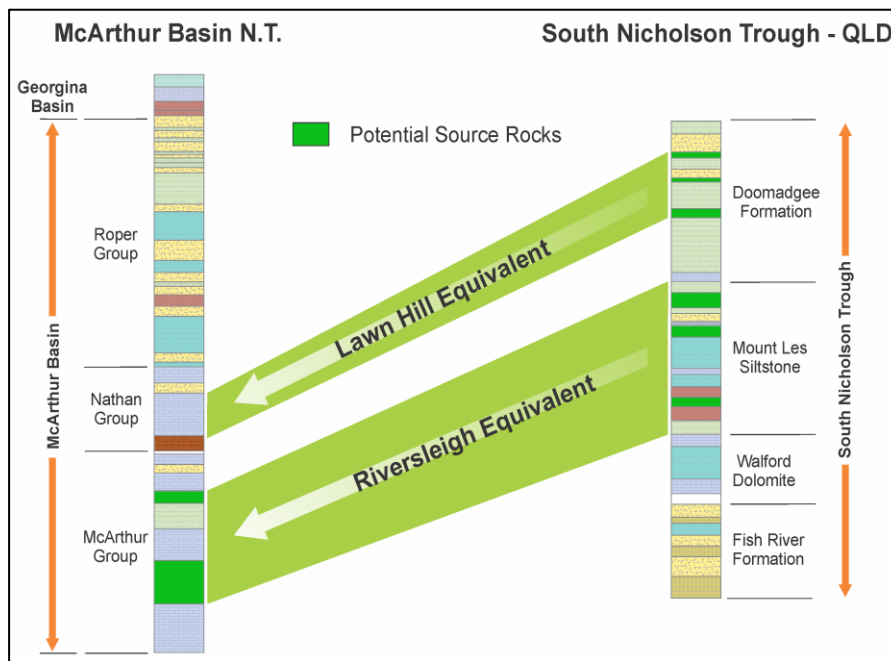
**Table 6** – Estimates of Prospective Recoverable Resources for Lawn Hill Shale Formation and the Riversleigh Shale Formation of the McNamara Group, ATP1087, QLD.



**Photo 3** – Egilabria 2 DW1 post-stimulation flare from the Lawn Hill Shale, ATP1087, QLD, August 2014.

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SRK Consulting (Australasia) Pty Ltd (**SRK**) carried out a probabilistic estimation of which the Prospective Resources for low, best and high cases are estimated on and supported by the review of historical and new well penetrations with live-oil and gas shows, geochemical source rock analysis (SRA) and porosity/permeability laboratory analysis of core and cuttings carried out by Weatherford Laboratories Australia & USA; FEG-SEM thin section analysis; 2D seismic, airborne geophysical survey interpretation and updated FROGTECH (2015) SEEBASE™ integrated mapping study commissioned by Armour to generate subsurface structural grids and closures; petrophysical analysis of available logs; stratigraphic review of published cross-sections; Hylogging, electric log & chemostratigraphic correlation; a CSIRO Study commissioned by Armour on the generative potential of the source rock units; gas composition analysis; literature review and Armour sponsored studies with the University of Queensland (UQ) and Australian School of Petroleum (ASP). Armour owns a 100% working interest within the SRK analysed areas of EPs 171, 174, 176, 190, 191, 192 and EP(A)s 173, 194, 195 and 196 in the NT for the Tawallah Group source rocks, and the Riversleigh Shale in ATP 1087 in Queensland.

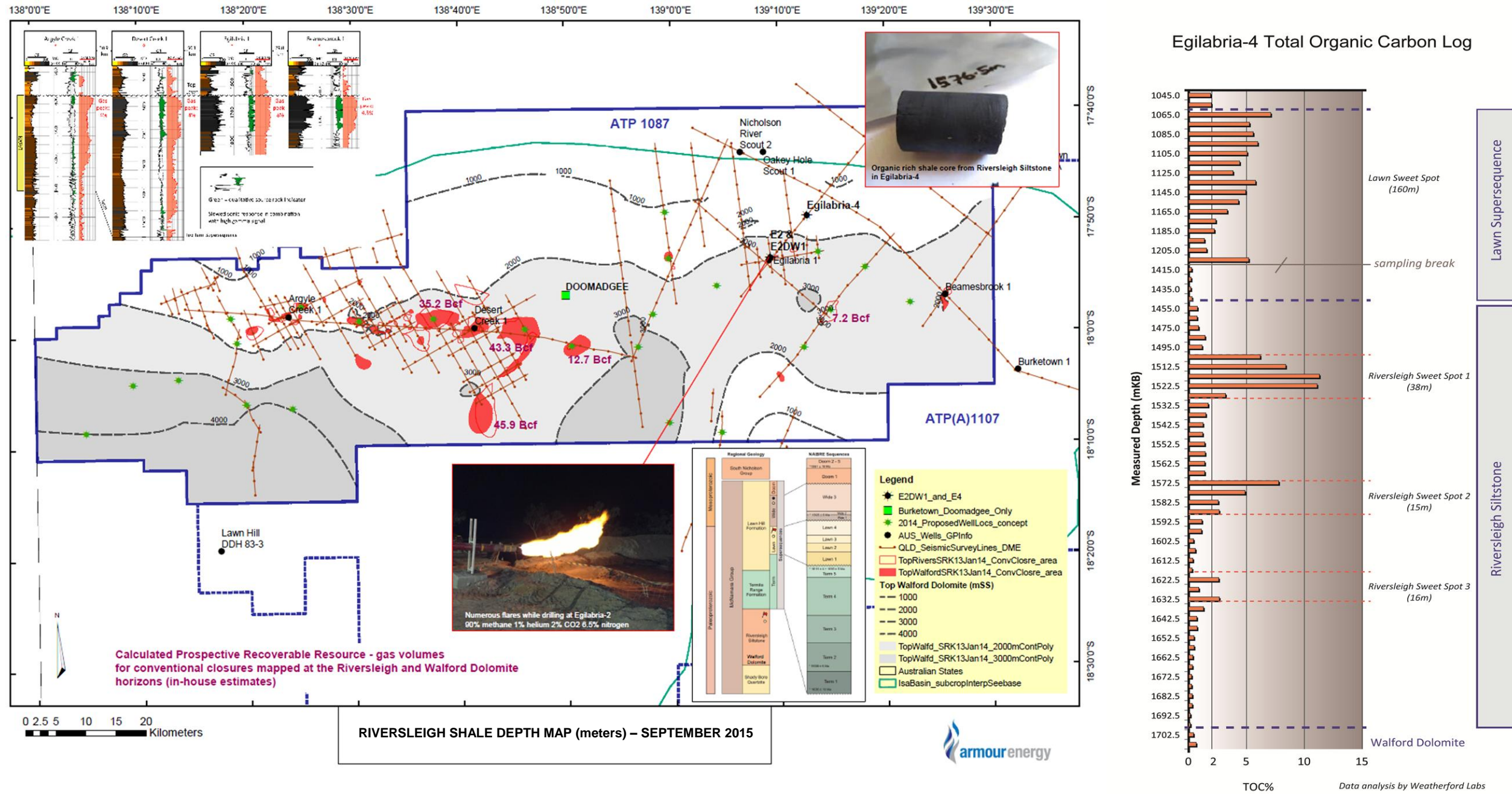


**Figure 2 – Chronostratigraphic source rock relationship between Northern Territory and Queensland, AU.**

**APPENDIX 1 FOOTNOTES- RESOURCE REPORTS**

- 1 MBA Report, Conventional and Unconventional Prospective Resource Estimate EP 171 & EP 176, NT, October 2011
- 2 MBA Report, Unconventional Prospective Resource Assessment, ATP (A) 1087, QLD, November 2011
- 3 D&M Report, Contingent Resources – EP 171 in the Northern Territory, April 2013
- 4 D&M Report, Prospective Resources Attributed to Certain Prospects in Various License Blocks, NT, April 2013
- 5 SRK Report, Coxco Dolomite Resource Evaluation Batten Trough, McArthur Basin, EP 171, 176, 190, NT, November 2013
- 6 Total less Contingent Resources – SRK Report, Egilabria 2 Hydraulically Stimulated DW1, Lawn Hill Formation ATP 1087, QLD, July 2014
- 7 SRK Report, Lawn Hill Formation Prospective Gas Resources ATP 1087, QLD, September 2015
- 8 SRK Report, Riversleigh Siltstone Formation Prospective Gas Resources ATP 1087, QLD, September 2015
- 9 SRK Report, Conventional and Unconventional Resource Assessment of the Wologorang and McDerrott Formations – Tawallah Group, NT, September 2015

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**Figure 3** – The Riversleigh shale is 500m to 1000m deeper than the overlying Lawn Hill Shale and offers the opportunity for stacked resource play development across an estimated area of 4,200 km<sup>2</sup>. The Lawn Hill shale flowed gas + Helium post-stimulation at the Armour Egilabria 2 DW1 and further demonstrates the deeper potential of Riversleigh shale hydrocarbon potential that has > 10% TOC in three low stress intervals in Armour Egilabria 4. The Riversleigh Shale has a Best Estimate of 14.0 Tscf and the Lawn Hill Shale 8.1 Tscf Prospective Recoverable Resources + 365 Bscf of Contingent Resources attributed to the first lateral well, multi-stage hydraulic stimulation that extracted and produced gas from a shale reservoir in Australia (SPE 171448 - Observations and Recommendations from a Hydraulic Fracturing Case in the Pre-Cambrian Lawn Hill Shale, Isa Superbasin, Australia; Dr Raymond L Johnson, Jr & Luke Titus, BSc).