

# **Armour Energy Limited**

# 2 September 2015

Armour to Become a Significant Gas, LPG, Condensate and Oil Producer on the Roma Shelf, Surat Basin, Queensland.

# Highlights:

- Armour executes agreements to acquire petroleum resources, tenures, production and transportation infrastructure assets on the Roma Shelf from Origin Energy for \$10m cash plus \$3m in deferred consideration, funded by current cash and available debt sources.
- Includes Kincora gas, LPG and condensate processing facilities providing a regional production hub, a dedicated pipeline to the Roma to Brisbane Pipeline at Wallumbilla and the Newstead and other potential gas storage facilities. Furthermore, the assets include a number of oil fields with associated facilities.
- Over 3,000km² of highly prospective western flank of the Taroom Trough of the Surat Basin, 19 Production Licences (6 not operated), 4 Authorities To Prospect (1 not operated) and 4 Petroleum Pipeline Licences.
- ➤ Cash flow from oil production anticipated very soon after acquisition completion. Estimated 6 12 months to gas / LPG / condensate production and sales.
- Independently verified 2C contingent resources (net) of 23 PJ gas, 245,000 bbls condensate, 52,000 tonnes LPG and 159,000 barrels of oil. 2C contingent resources can be reclassified to 2P reserves following the recommissioning of the Kincora Gas Plant and necessary infrastructure and approval of the required well activities.
- Newstead underground gas storage facility with gross capacity of 7.5 PJ currently contains 2.3 PJ of sales gas. Additional underground gas storage facilities under investigation add a further 19 PJ of storage potential.
- Conventional unrisked prospective resources in multiple prospects and leads in proven petroleum systems throughout the tenements of 110 bcf of gas and 1 million barrels of oil (both best estimated, unrisked) to be unlocked by using 3D seismic, laterals, well stimulation and underbalanced drilling techniques. Refer details on Resources and Prospective Resources and Competent Person statements below.
- Unrisked prospective resources exploration upside in excess of 500 bcf (best estimate) of unconventional gas and associated condensate in Permian reservoirs. Further to this there is up to 3 Tcf (best estimate) of unrisked prospective resources in Permian Coals and shallower Walloon Coal Measures. Refer details on Resources and Prospective Resources and Competent Person statements below
- > Key operational staff to be retained through the transaction.
- Planned program of recommissioning plant and wells to bring on production as soon as possible including well workovers, re-perforations and stimulation to enhance production, 3D seismic to define low risk resource targets and development drilling.



The Directors of Armour Energy ('Armour' or the 'Company') are pleased to advise that Armour has today executed Sale and Purchase Agreements (Agreements) to acquire the oil and gas interests of Origin Energy on the Roma Shelf in the Surat Basin, Queensland for AUD \$13m as an initial payment of \$10m, then \$3m (in \$1m annual tranches over three years) from the first anniversary of gas sales. The execution of the Agreements follows a comprehensive tender process which culminated in Armour being selected as preferred tenderer in early August 2015.

The acquisition will provide the opportunity for Armour Energy to become, following recommissioning of the Kincora Gas and LPG Plant and pending further resource upgrades and discoveries, a petroleum producer for up to 10 PJs per annum of gas, 110,000 barrels of condensate, 21,000 tonnes of LPG and 100,000 barrels of oil per annum. Condensate is a very light oil which precipitates from gas on natural pressure drops during production and can attract a premium to crude oil prices of approximately 10-20% while LPG sells for approximately \$600 per tonne wholesale. Recommissioning the plant and infrastructure is forecast to take 6 to 12 months, following which Armour believes that it will initially be able to produce at 7 – 9 mmscf/d. Oil production can re-commence within 1 month of formal transfer of ownership (as oil production does not require the Kincora plant to be operational) and is expected to commence at 50 bbl/d from the Emu Apple and Riverslea fields.

The assets to be acquired include:

#### **Production Licences and Near-Term Petroleum Resources**

- Origin's interests in 19 Production Licences (7 non-operated), 4 Authorities to Prospect (1 non-operated) and 4 Petroleum Pipeline Licences Table 2 refers. Certain JV interests being acquired are subject to pre-emptive rights. In relation to JVs with Santos, pre-emptive rights have been waived. Of the remainder, Armour may not be able to acquire interests in those tenements depending on whether these pre-emptive rights are exercised or waived by the JV partners. Of the \$10 million cash consideration payable on completion, the aggregate amount that relates to the tenements still subject to pre-emptive rights is approximately \$3.5 million. In the event these interests are not acquired, the effect on contingent resources is minor as the interests relate mainly to ATPs.
- 76 wells of which 38 wells will be brought back on production as soon as possible. The 38 wells show variable resource development extensions evident in the historic logs of the wells.
- Production recoverable from existing wells and stimulation of production zones in existing wells:

Sales gas	LPG	Condensate	Oil
PJ	kTonne	kbbl	kbbl
23.0	51.9	245	154

Table 1 - Independently verified 2C contingent resources

#### **Exploration Licences**

• Origin's interests in 4 ATP's (1 non-operated) – see Table 2.



### Kincora Gas and LPG Plant and Infrastructure

- Gas, LPG and condensate processing and gas compression facilities at Kincora, south of Roma. These have been on care and maintenance by Origin since 2012 and will be recommissioned by Armour.
- A number of in-field gas compression and stand-alone oil gathering / processing facilities as well as inter-field pipelines.
- A dedicated pipeline from the Kincora Gas Plant to Wallumbilla connecting to the Roma to Brisbane Pipeline.

# An Established Gas Storage Facility

A gas storage facility with a capacity of 7.5 PJ, currently containing 2.3 PJ of sales gas.

Armour estimates the replacement value of the infrastructure at over \$250m.

In recent years these assets have become non-core to Origin and the potential of the above ground facilities and below ground prospectivity has not been fully realised.

Armour's management intend to apply their considerable experience in operations to the recommissioning of the plant and conversion of contingent resources to reserves and production. Armour will also focus on the discovery and definition of further resources using 3D seismic, lateral well drilling technology and well stimulation techniques which have not been applied in this area in the past.

Commenting on the agreement with Origin, Armour's Executive Chairman, Nick Mather said:

"The transition to producer marks an important step in Armour's evolution. We believe we can see another aspect to the prolific Surat Basin – a part of Australia's oil and gas heritage. It's been the birthplace of a number of great companies and I have no doubt that there is a lot more oil and gas to be produced in the Roma shelf. We've developed a detailed understanding of the architecture of the Surat Basin through the early days with Arrow Energy. As well as immediate production we're attracted to the huge unconventional wet gas and oil upside in the Permian rocks on the eastern flank of the Roma Shelf. It's been largely ignored despite being important on the eastern side of the Basin."

# Robbert de Weijer, Armour's CEO said:

We're excited by this acquisition. Combining these producing assets to our large and highly prospective acreage position in Northern Australia sets us up to become a major supplier of hydrocarbons to domestic and export markets in the short and longer term. The Roma Shelf is one of those prolific areas that just keeps on giving. There is well established infrastructure and services nearby. Armour's team is ready for this move. We will be able to apply our considerable experience in production operations, drilling, well stimulation, exploration and project management. And all this comes at a time of a rapid increase in demand in the east coast gas market. This will transform our Company."



#### **Prospective Resources**

# • Stratigraphic Components and Wet Gas Characteristics

The historical gas production in the Surat Basin has been accompanied by moderate volumes of condensate and LPG. Historically in this area, condensate credits have averaged 11 barrels per million cubic feet and LPG production 2 tonnes per million cubic feet. Armour's work suggests that there are more extensive stratigraphic components to contribute to the prospectivity of the Permian section of the Surat Basin, and that this factor enhances liquids prospectivity.

### Numerous Defined Additional Exploration Targets

In addition to the resources in Table 1, Armour estimates there is potential for a further 115 bcf of gas (best estimate, unrisked) with associated 1.2 mmbbl of condensate and 200,000 tonnes of LPG in well defined prospects and leads, the subject of detailed seismic surveys conducted by previous owners. Armour has also identified potential for a further 1.5 million barrels of oil (best estimate, unrisked) at the Emu Apple oil field.

Prospective resources volume estimates presented by Armour utilized arithmetic summation methods based on seismic interpretations either made by previous owners or by new seismic interpretation undertaken by Armour, and results of previous well drilling. It was assumed that 33% of seismic targets were valid, and that 33% of valid structures would be commercially successful when drilled. The prospective resource was then adjusted downwards by 50% recovery rate for gas, and 25% recovery rate for oil. Appraisal and wildcat drilling will commence following the restart of the Kincora Plant, however there is no certainty that it will be commercially viable to produce any portion of the prospective resources evaluated.

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.

Furthermore, Armour has identified significant potential for increased production from hydrocarbon zones currently cased-off in existing wells that have not been accessed by production perforations.

### • Tight Conventional and Coal Seam Gas Resource Upside

Armour estimates that the tenements offer further targets for the discovery of additional unrisked prospective resources in excess of 500 bcf (best estimate) in eastward oriented sand channels and unconventional accumulations in the Permian section (Tinowon Sand Member) and a further unrisked prospective resources of 3 Tcf (best estimate) in coal seams in the Permian Back Creek Coal Measures and shallower Jurassic Walloon Coal Measures. Elsewhere, these coal units host extensive resources of gas in Queensland's Surat and Bowen Basins in projects owned by the QCLNG and Arrow Energy.

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.



### **Newstead Storage Facility**

The assets include the Newstead Field which is now used as an underground gas storage facility, including a contained 2.3 PJ of gas resources, available for immediate sale on recommissioning of the Kincora gas plant. The facility is capable of holding 7.5 PJ of gas and Armour intends to investigate management of this facility in order to maximise returns during periods of high gas demand.

Potentially there is scope to increase the underground gas storage capacity by a further 19 PJ from other reservoirs. Armour believes the existing gas storage facility and the potential for further storage capacity opportunities provides an excellent business opportunity to participate in the gas trading business and make use of gas price fluctuations in the market.

#### **Queensland Gas Markets**

Armour believes that Queensland gas markets will be very strong over forthcoming years as Queensland gas demand triples as a result of Queensland LNG facilities coming on stream. Spot gas prices in peak periods are expected to reach significantly higher levels.

# Birthplace of Previous Oil and Gas Producers

The Roma shelf was the location of the first gas discovery in Queensland, in 1900. Since then the area has spawned the emergence of numerous Australian oil and gas producers, including Crusader, Hartogen, AOG, Bridge and numerous other oil and gas producers.

#### **Debt Funding**

The acquisition is being funded by existing cash and available debt sources. Additional debt funding sources are being considered to expedite production ramp up.

# **Expected Recommissioning Schedule and Budget**

Armour expects oil production to recommence promptly at a rate of approximately 50 barrels a day from selected shut in oil wells and to recommission the Kincora Plant to facilitate gas, condensate and LPG production within the next 6 to 12 months. Armour has retained key project staff in the agreement with Origin and is planning a seamless handover. The recommissioning procedure involves running pipeline checks, relocating the end of line facilities at Origin's compound at Wallumbilla and restarting the Kincora Gas Plant.

# Summary of independent 3rd Party Contingent Resource estimates (RISC Operations Pty Ltd)

The project areas, outlined in **Figure 1 and 2** encompass independently verified 2C contingent resources of 23 PJ of gas, 245,000 barrels of condensate, 52,000 tonnes of LPG and 154,000 barrels of oil (Armour share). These resources have been estimated after analysis of historical well production and review of the effect of stimulation on well performance. Production forecasts were generated taking into account reservoir drive and vertical flow performance. For resource estimation the forecasts were truncated at the economic life of the field (without additional activities other than restarting production and stimulation). Additional activities are expected to extend the economic field life. **Table 1** below indicates the products recoverable from existing wells and stimulation production zones in existing wells by 2032.



The recovered quantities have been classified as a contingent resource pending recommissioning the wells and facilities and approval of the stimulation projects.

Sales gas	LPG	Condensate	Oil
PJ	kTonne	kbbl	kbbl
23.0	51.9	245	154

Table 1 - Independently verified 2C contingent resources

The contingent resources have been estimated deterministically and aggregated arithmetically. The net figures have been estimated on a working interest basis, a small adjustment is required to some net project profit (NPI) and overriding royalties (ORRs) in some permits. The estimates are net of fuel and use the plant gate as the reference point at an effective date of 31 July 2015.

On behalf of the board

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Karl Schlobohm

**Company Secretary** 

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# **About Armour Energy**

Armour Energy is 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. This region has only recently had its shale potential identified by Armour Energy. The domestic and global demand for gas, combined with the new shale extractive technologies and experienced personnel, provides Armour with an extraordinary opportunity to define and ultimately develop a new liquids rich gas province.

Armour Energy's permit areas are characterised by low population densities, cooperative stakeholders and aspects of the natural environment suited to the exploration and development of a future gas and liquids province. Armour places considerable importance on close liaison with traditional owners and all stakeholders.

Armour Energy is focusing on the exploration of the McArthur, South Nicholson 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.

Armour's acquisition of assets and resources on the Roma Shelf will establish the company's future as a petroleum producer.

Further information regarding Armour Energy Limited is available on Armour's website at www.armourenergy.com.au



#### **Competent Persons Statements**

Information on the **contingent resources** in this release relating to Origin's southern Surat Basin PLs and ATP's is based on an independent review conducted by RISC Operations Pty Ltd (RISC) 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 Mr Bruce Gunn, Principal Advisor with RISC, a leading independent petroleum advisory firm. Mr Gunn is a member of the SPE and his qualifications include a Bachelor of Science (Hons.) in Earth Sciences from Flinders University in South Australia and a Master of Science from the University of Cape Town, he has more than 30 years of relevant experience. Mr Gunn 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 **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 the US and international 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** for the estimates was 1 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:**

"Contingent Resources" are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations, but the applied project(s) are not yet considered mature enough for commercial development due to one or more contingencies. Contingent Resources may include, for example, projects for which there are currently no viable markets, or where commercial recovery is dependent on technology under development, or where evaluation of the accumulation is insufficient to clearly assess commerciality. Contingent Resources are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by their economic status.

"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.

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.



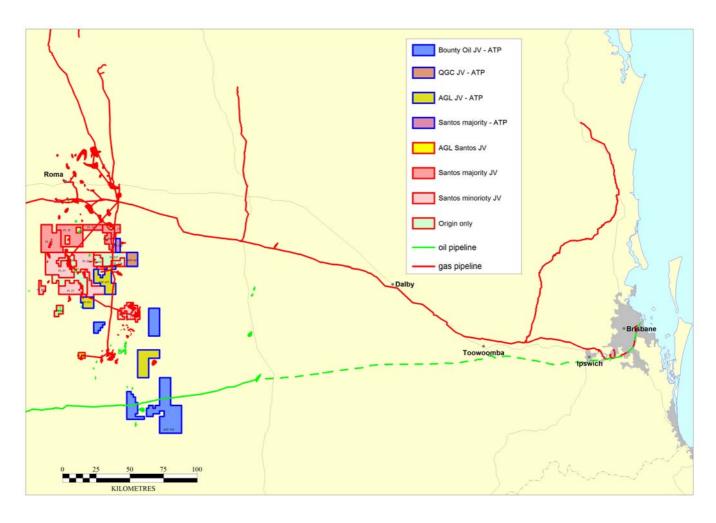


Figure 1 – Broader Roma Shelf Project Area and Infrastructure



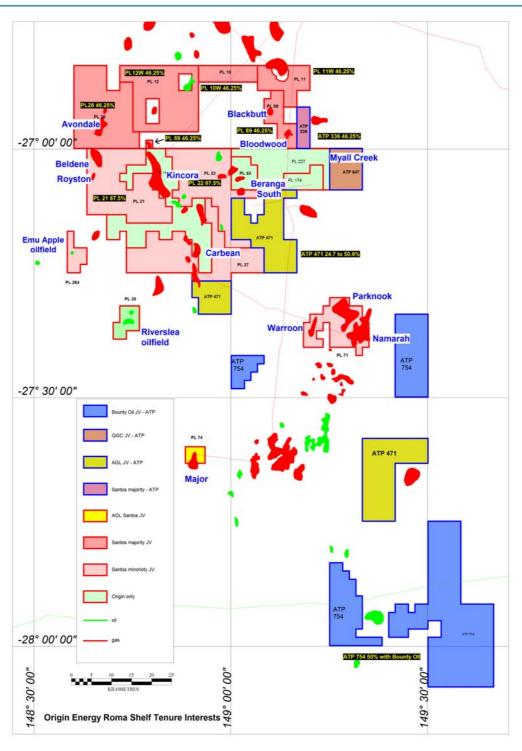


Figure 2 – Origin's Roma Shelf Tenure Interests



Tenement	Interest	Operated	Unwaived pre-emptive right
PL 14	100%	*	
PL 53	100%	*	
PL 70	100%	*	
PL 511 (formerly PL 174)	100%	*	
PL 227	100%	*	
PPL 3	100%	*	
PPL 20	100%	*	
PPL 63	100%	*	
Newstead Gas Storage	100%	*	
PL 28	46.25%		
PL 69	46.25%		
PL 89	46.25%		
PL 320 (formerly PL 10W)	46.25%		
PL 11W	46.25%		
PL 12 W	46.25%		
PL 11 Snake Creek East Exclusion Zone	25%		
PL 21	87.5%	*	
PL 22	87.5%	*	
PL 27	87.5%	*	
PL 71	90.0%	*	
PL 264	90.0%	*	
ATP 1190 (formerly ATP 471)	50.64%	*	*
PL 30	75%	*	*
PL 512 (formerly PL 74)	69%	*	*
PPL 22	69%	*	*
PL 71 (exploration)	72%	*	*
ATP 647 (Block 2656)	50%	*	*
ATP 754	50%	*	*
ATP 1190 (Bainbilla) (formerly ATP 471)	24.748%		*

Table 2 - Inventory of Origin's Roma Shelf Assets





Photo 1- The Kincora Gas Plant is located south-west of Wallumbilla in Queensland. Gas processing at the facility commenced in 1977. The plant also produces LPG, condensate and crude oil and has a storage facilities within the Newstead Field. Current gas processing capacity is estimated at 25 TJ per day and is connected to the Wallumbilla Gas hub which in turn provides a route to the southern, Gladstone and Brisbane markets.