



ASX Announcement

3 April 2017

Kincora Project Reserves Upgrade

Highlights:

- **Independently verified 2P petroleum reserves (net to Armour): 56.8 PJ of gas, 565 kbbls of condensate and 117 kTonnes of LPG.**
- **Kincora Project commercialisation progressed by executed connection agreement with APA Group to the Roma Brisbane Pipeline as announced on 6th March 2017 and executed Gas Sales Agreement with Australia Pacific LNG as announced on 22nd December 2016.**

The Directors of Armour Energy ('Armour' or the 'Company') are pleased to provide a Reserves update on its operated Roma Shelf Assets, Queensland as part the Company's Kincora project ("Kincora project"). The commercialisation of Armour's Kincora Project has been reviewed and evaluated in accordance with the Society of Petroleum Engineers – Petroleum Resource Management System (SPE-PMRS) guidelines, resulting in a portion of the previously evaluated Contingent Resources being upgraded to Reserves as follows:

Reserves ⁽¹⁾	1P	2P (1P+2P)	3P (1P+2P+3P)
Estimated Net Total Gas (BCF)	30.16	53.86	149.56
Estimated Net Total Gas (PJ)	31.82	56.82	157.79
LPG Yield (Tonne)	65,706	117,338	325,828
Condensate Yield (BBL)	316,215	564,700	1,568,075

Table 1 – Armour Energy Bowen-Surat estimated aggregated quantities of petroleum reserves

Table 1 Notes:

1. Petroleum reserves are classified according to SPE-PRMS.
2. Petroleum reserves are stated on a risked net basis with historical production removed.
3. Petroleum reserves are stated inclusive of previous reported estimates.
4. Petroleum Reserves have no deduction applied for gas used to run the process plant estimated at 7%.
5. BCF = billion cubic feet, LPG = liquefied petroleum gas, PJ = petajoules, kbbl = thousand barrels, kTonne = thousand tonnes; Conversion 1.055 PJ/BCF.
6. 1P = Total Proved; 2P = Total Proved + Probable; 3P = Total Proved + Probable + Possible.
7. LPG Yield 2065 tonnes/petajoules, Condensate Yield 9938 barrels/petajoules

The upgrade of a portion of Armour's Contingent Resources to Reserves follows demonstration by Armour of the economic viability and commercialisation of the Kincora project. This demonstration includes the execution of the Gas Sales Agreement with Australia Pacific LNG, the Connection Agreement with APA Group, plus Armour's progress on its capital raising program and its Kincora project restart plans.



Commenting on the upgrade, Executive Chairman Mr Nicholas Mather said “We are very pleased with the ongoing progress at the Kincora project leading to the upgrading of a portion of our Contingent Resources to Reserves. We are highly confident of further conversion of Resources to Reserves as development progresses. Similarly, with the myriad of resource leads identified by Armour’s exploration team, and in the context of the high 37% discovery rate in this area, we have great confidence in achieving significantly higher resource targets in the Roma Shelf area.

Armour is set to become the only significant independent gas producer on the Roma Shelf in Queensland, not constrained by being fully contracted to LNG supply contracts. Strong domestic gas market opportunities are considered likely into the near future in view of tight gas supply for domestic use in Eastern Australia, exacerbated by LNG export demand through the Gladstone LNG plant operators and drilling and development restrictions in NSW and Victoria.

Armour’s strong Management team, with both sub-surface exploration and surface operations expertise, along with a well managed capital raising program, have provided a perfect platform to create the Armour Roma Shelf Petroleum Production project.”

Kincora Project Restart - Gas Production & Sales Program

Supply of gas from the Kincora Project to the east coast market is planned as follows:

- Phase 1 involves commencement of gas production (ie the restart), recommissioning of the gas processing and compression facilities and then increase of the gas production rate to an initial 9 TJ per day (3.3 PJs per annum). Gas production will initially be from the Newstead storage facility with various existing wells across the fields progressively brought back into operation. First gas production and commencement of gas sales delivering into the Australian Pacific LNG offtake agreement is targeted to be achieved by June 2017, and the balance of the restart program (including commencement of associated liquids production) is planned to be completed by August/September 2017.
- Phase 2 will involve shooting 3D seismic data and the drilling of 10 new wells plus workovers and stimulations of existing wells to achieve an increase in gas production to 20 TJ per day. Phase 2 will take place over a period of 12 to 18 months from first gas production, and will take the total gas production rate to an estimated 70% of the Kincora Gas Plant name plate capacity. Subject to operational performance, further production increase will be pursued to achieve 100% plant capacity. Associated liquids production from the project historically averaged 9,942 barrels of condensate (a light oil) per PJ of gas produced, and 2,066 tonnes of LPG per PJ of gas produced. Based on these historical production rates, at a gas production rate of 20 TJ per day liquids production is expected to reach 198 barrels of condensate and 41 tonnes of LPG per day. Projected condensate and LPG figures are based on the information contained in the Company’s ASX release of 19 July 2016.

The key activities and their expected timing for the Kincora Project restart program are set out in Figure 1 below.

Target schedule	2Q16			3Q16			4Q16			1Q17			2Q17			3Q17			4Q17		
	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1 Restart planning and estimate																					
2 Site preparation & Operational Readiness																					
3 Emu Apple Oil (inspections, tests, restart)																					
4 First Oil (despatch)																					
5 PPL3 IP run, data evaluation, Restart risk assessment, Connection agreement																					
6 PPL3 repairs																					
7 PPL3 end of line modifications																					
8 Phase 1 Restart - commence production and ramp-up to 9TJ/day																					
8.1 Restart of Newstead gas process stream																					
8.2 First Gas Sales - ex Newstead																					
8.3 Kincora Gas Plant - LPG system (restart)																					
8.4 Restart field production (restart existing 22 wells)																					
8.5 LPG & Condensate Production & Sales																					
9 Phase 2 Restart - ramp-up to 20TJ/day over next 12 to 18 months																					
9.1 Drill new wells, stimulate and workover existing wells																					ongoing...

Figure 1 – Kincora restart program

Newstead Gas Storage

A key component of Armour’s gas supply strategy for the Australia Pacific LNG offtake arrangements and, going forward, for other customers is the Newstead Gas Storage Facility. The Newstead storage facility currently holds approximately 2.3 PJ of treated gas (sales quality) which is expected to require minimal re-processing (compression and dehydration) before sending to market via Wallumbilla. Newstead has a total capacity of around 7.5 PJ.

The Newstead storage facility provides significant operational and commercial benefits, including:

- back-up capacity when upstream production facilities experience either unplanned or planned shutdowns;
- capacity to store gas when prices are low, for later production during periods of higher prices so as to maximise revenue;
- capacity to maximise sales opportunities during seasonal price cycle and trading activities, specifically sales to electricity generators during the peaking electricity market in the December to March period; and
- opportunistic supply when spot cargoes for LNG experience price spikes.

Gas injection and withdrawal rates at the Newstead storage facility are expected to be improved through de-bottlenecking and process plant augmentation. Armour will undertake detailed studies toward achieving this following restart of the facility and commencement of gas sales, as the project develops.



Technical Statement

Armour's Bowen-Surat Basin Reserves Report prepared by SRK and based on data at 1 March 2017, documents total petroleum net reserves classified in accordance with SPE-PRMS guidelines (see **Table 2** below). The estimated aggregated quantities of petroleum reserves to be recovered from existing wells and through future capital are listed in Table 1 above and have made no deduction for fuel and flare gas which would be estimated at 7%.

The independently verified Reserves Report compiled by SRK Consulting (Australasia) Pty Ltd details a high degree of confidence in the commercial producibility of Permian, Triassic and Jurassic aged reservoirs previously discovered and produced in operated granted petroleum licenses using 2D-3D seismic, historic and modern well data, reservoir pressure data, electric logs and rock properties from chip & core samples, gas composition analysis, hydraulic stimulation results, analysis of historical well production, decline curve analysis, offset field production data and prior production data from wells before the Kincora Gas Plant was shut-in by the previous operator. The reported Reserves are used in connection with estimates of commercially recoverable quantities of petroleum only and in the most specific category that reflects an objective degree of uncertainty in the estimated quantities of recoverable petroleum. The petroleum reserves are reported net of fuel and net to Armour to the APA Group metered sales connection at Wallumbilla and the report discloses the portion of petroleum Reserves that will be consumed as fuel in production and lease plant operations. Armour will be using calibrated metering and gas chromatographs at the Kincora Gas Plant as a reference point for the purpose of measuring and assessing the estimated petroleum Reserves from the produced sales gas.

The economic assumptions used to calculate the estimates of petroleum Reserves are commercially sensitive to the Armour operated Kincora Project. The methodology used to determine the economic assumptions are based upon strategic objectives that include, but not limited to, new drills, workovers, recompletes and surface facility modifications to ramp up to and maintain a 20 TJ/day production profile for 15 years starting in June 2017. The sanctioned development model includes a starting and ending monthly schedule of working/net interest capital expenditure to develop and maintain the petroleum Reserves, operational expenditure to develop and produce the petroleum reserves, fixed petroleum reserve prices under-contract and escalated petroleum Reserve futures based upon Wallumbilla Hub prices, tax/royalty sensitivities, revenue from gross and net petroleum production yields and cash flow from petroleum production yields and summation of discounted cash flows.

The petroleum Reserves are located on granted petroleum licences with approved environmental authorities and financial assurances. Armour has a social licence to operate and relevant surface access agreements are in-place. Armour is the owner and operator of the Kincora Project and PPL3 sales gas pipeline which connects the Kincora Gas Plant to the Wallumbilla gas hub via the connection agreement with APA. Armour holds granted Petroleum Licenses over the reported estimates of petroleum Reserves, associated gathering and field compressors. The basis for confirming the commercial producibility and booking of the estimated petroleum Reserves is supported by actual historic production & sales and/or formation tests. The analytical procedures used to estimate the petroleum reserves were decline-curve analysis to 50 thousand-cubic-foot-day, historic production data and relevant subsurface data including, formation tests, 2D-3D seismic surveys, well logs and core analysis that indicate significant extractable petroleum.

The proposed extraction method of the estimated petroleum Reserves will be through approved conventional drilling and, where applicable, hydraulic stimulation techniques. Wellbores will be cased and cemented with a wellhead. Petroleum will be recovered through production tubing and gathered to field compression sites for delivery to the Kincora Gas Plant. Processing at the Kincora Gas Plant will be required to separate the extracted hydrocarbons into dry gas, liquid petroleum gas, oil and condensate and to remove any impurities prior to sales.

Certain reported estimates of the petroleum Reserves relate to developed non-producing and undeveloped petroleum Reserves in known accumulations and are categorized as such by project schedule timeframes. The developed non-producing and undeveloped Reserves are sanctioned for development and justified for development based upon the Armour Kincora Project model. The methodology used to determine the economic assumptions are based upon strategic objectives that include, but not limited to, new drills, 3D seismic data control, workovers, recompletes and surface facility modifications to ramp up to and maintain a 20 TJ/day production profile to May 2031 for this modelled Reserve case.

Area	Interest (%)	1P	2P	3P
Carbean	100.0	1.42	1.42	1.42
Sandy Creek	100.0	0.54	0.54	0.54
Kincora	100.0	0.46	0.46	0.46
North Colgoon	100.0	0.40	0.40	0.40
Borah Creek	100.0	0.24	0.24	0.24
Caxton	87.5	0.56	0.56	0.56
New Royal	87.5	0.49	0.49	0.49
Bottle Tree	87.5	0.77	0.77	0.77
Berwick	87.5	1.03	1.03	1.03
Beranga South	87.5	3.15	3.15	3.15
Myall Creek	100.0	18.40	42.10	137.80
PL 71 P	90.0	2.70	2.70	2.70
Estimated NET BCF	-	30.16	53.86	149.56
Estimated NET PJ	-	31.82	56.82	157.79
LPG (C3-C4) Yield Tonnes	-	65,705.82	117,338.05	325,827.68
Condensate (C5+) Yield bbl	-	316,215.23	564,700.02	1,568,075.28

Table 2 – Armour Energy Bowen-Surat estimated net aggregated quantities of petroleum reserves

Table 2 Notes:

- Petroleum Reserves are classified according to SPE-PRMS.
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- BCF = billion cubic feet, LPG = liquefied petroleum gas, PJ = petajoules, kbbl = thousand barrels, kTonne = thousand tonnes; Conversion 1.055 PJ/BCF.
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- LPG Yield 2065 tonnes/petajoules, Condensate Yield 9938 barrels/petajoules.



On behalf of the board
Karl Schlobohm
Company Secretary

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Competent Persons Statement

Consents

The resources information in this ASX release is based on, and fairly represents, data and supporting documentation prepared by, or under the supervision, of Dr Bruce McConachie. Dr McConachie is an Associate Principal Consultant of SRK Consulting (Australasia) Pty Ltd and has a PhD (Geology) from QUT and is a member of AusIMM, AAPG, PESA and SPE. The Resources information in this ASX announcement was issued with the prior written consent of Dr McConachie in the form and context in which it appears.

The 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 20 years of relevant experience in both conventional and unconventional hydrocarbon exploration & production in the US and multiple 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.

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

"Reserves" are those quantities of petroleum which are anticipated to be commercially recovered from known accumulations from a given date forward. All reserve estimates involve some degree of uncertainty. The uncertainty depends chiefly on the amount of reliable geologic and engineering data available at the time of the estimate and the interpretation of these data. The relative degree of uncertainty may be conveyed by placing reserves into one of two principal classifications, either proved or unproved. Unproved reserves are less certain to be recovered than proved reserves and may be further sub-classified as probable and possible reserves to denote progressively increasing uncertainty in their recoverability.



“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.