

5 April 2018

ASX Limited  
Company Announcements  
Level 4, 20 Bridge Street  
SYDNEY NSW 2000

## SUN ANNOUNCES INDEPENDENT RESOURCES ESTIMATE FOR BOWSPRIT OIL PROJECT

The Board of Sun Resources NL (“Sun” or “the Company”) (ASX: SUR) is pleased to announce that the Company has had RISC Advisory Ltd (“RISC”) prepare an Independent Resource Assessment of the Bowsprit Oil Project (“Bowsprit”). Bowsprit covers approximately 1,055 acres and is located in the inland waters of the State of Louisiana, USA. Sun and Pinnacle Exploration Pte Ltd (“Pinnacle”) each have a 50% working interest with Sun the designated Operator. A Royalty of 21% is payable to the state of Louisiana.

RISC has probabilistically estimated the following contingent and prospective resources for the Bowsprit Project as of 15 March 2018 in accordance with SPE PRMS (2007) guidelines. The prospective resources are not discovered as the presence of a significant quantity of moveable hydrocarbons has yet to be demonstrated.

*RISC’s independent estimate of resources net to Sun’s 50% working interest within polygon of held leases at 15 March 2018.*

	Contingent Resources			
Sand	1C	2C	3C	Units
7,200'	0.07	0.21	0.38	Bscf
7,400'	0.04	0.38	0.85	MMbbbls
7,400' Associated Gas	0.04	0.42	0.95	Bscf

	Unrisked Prospective Resources			
Sand	Low	Best	High	Units
7,400' Deep	0.05	0.86	3.04	MMbbbls
7,400' Deep associated Gas	0.05	0.83	4.44	Bscf

RISC assesses the chance of success for the prospective resources as 20% (1 in 5)

*Cautionary statement prospective resources - The estimated quantities of petroleum that may potentially be recovered by the application of a future development project 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.*

**Commenting on the release,** Alex Parks, Managing Director of Sun said, “The Bowsprit Project is now firming up, the 3D seismic has shown the potential resource volumes to be larger than first thought. The contingent resources of the field of 0.76MMbbbls (2C gross), once proven to flow at commercial rates are sufficient to give a viable project, with significant upside in the prospective resources. If the prospective resources are also proven to be present, the field could produce an additional 1.72 million barrels (on a gross basis) with a breakeven oil price estimated to be in the order of US\$25/bbl. We look forward to drilling the first well as soon as practical and appraising the fields’ potential.”

### Resource Estimate Details

RISC has assessed the resource potential for three sands in the Bowsprit Project. 7,200', 7,400' and 7,400' Deep.

- Hydrocarbons have been flowed from the 7,200' and 7,400' zones and the volumes associated with these zones are classified as contingent resources. The project viability is contingent on demonstrating that a horizontal well will produce at commercially significant rates.
- Slightly below the 7,400' zone is the 7,400' Deep sand. RISC have classified the 7,400' deep sand as prospective resources. Whilst there are indications of resistivity on logs, the reservoir has not been shown to have a significant quantity of moveable hydrocarbons<sup>1</sup>. Modern logs and an oil sample or flow test are needed to demonstrate a significant quantity of moveable hydrocarbons.
- There are no reserves attributable to the field as of 15 March 2018.

See Figures 1 & 2 for Schematic of the Zones.

The process of determining the estimated recoverable hydrocarbons is to assess the range of hydrocarbons potentially present in the reservoirs and then estimate that quantity that can be recovered through field development. The volume attributable to the project Joint Venture partners is constrained by the area of the field actually held under surface leases<sup>2</sup> (See Figure 1).

RISC's estimate of hydrocarbons initially in place (HIIP) (whole structure).

Sand	P90	P50	P10	Class	Geological Chance of Success
7,200'	1.47 Bscf	1.89 Bscf	2.37 Bscf	Contingent Resource	100%
7,400'	0.7 MMbbls	5.0 MMbbls	12.6 MMbbls	Contingent Resource	100%

RISC's estimate of unrisks prospective hydrocarbons initially in place (Whole Structure)

7,400' Deep	1 MMbbls	11.8 MMbbls	49.0 MMbbls	Prospective Resource <sup>3</sup>	20%
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RISC estimate of gross (100%) contingent resources from the whole structure assuming full field development.

Sand	P90 EUR	P50 EUR	P10 EUR	Class	Produced in 1960s
7,200'	1.03 Bscf	1.32 Bscf	1.66 Bscf	Contingent Resource	
7,400'	0.13 MMbbls	0.97 MMbbls	2.54 MMbbls		0.06 MMbbls

<sup>1</sup> Sun and Pinnacle are of the opinion that the log response indicates moveable hydrocarbons in this sand but acknowledge they have yet to be proven to flow.

<sup>2</sup> . In reality, crestally located wells should drain the whole structure if the sands are connected.

<sup>3</sup> RISC recognises the presence of a positive resistivity response on logs in the 7,400' deep zone, which may potentially be hydrocarbons, but as these have not been shown to be a significant quantity of movable hydrocarbons. RISC in accordance with the SPE PRMS do not consider resources in the 7,400' Deep zone as discovered, and therefore categorise them as "prospective". The principal risk is proving the seal is effective on the bounding fault.

RISC estimate of gross (100%) unrisked prospective resources from whole structure assuming full field development.

Sand	P90 EUR	P50 EUR	P10 EUR	Class	Produced in 1960s
7,400' Deep	0.19 MMbbls	2.33 MMbbls	9.84 MMbbls	Prospective Resource <sup>1</sup>	0 MMbbls

Whilst Sun and Pinnacle have leased the bulk of the structure, if the field is proven to be at the larger end of the range there is a portion of the field (as mapped by RISC) that may exist outside the current leases. RISC has constrained the volumes to those areas currently leased by the Bowsprit Joint Venture.

### Associated Gas

On the basis of the production history, RISC has assumed the oil in the reservoirs is saturated and the oil will have associated gas production. A range of gas oil ratio (GOR) from 1,000 scf/bbl to 1,250 scf/bbl has been assumed for the field, consistent with the oil properties assumed by RISC. The local infrastructure should allow gas sales with a new 2.5km gas export pipeline.

RISC estimate of gross (100%)<sup>4</sup> JV resources at 15 March 2018 net to the lease area "Polygon"

Sand	Contingent Resources			Units
	1C	2C	3C	
7,200'	0.14	0.42	0.76	Bscf
7,400'	0.08	0.76	1.72	MMbbls
7,400' Associated Gas	0.08	0.84	1.9	Bscf

Sand	Unrisked Prospective Resources			Units
	Low	Best	High	
7,400' Deep	0.1	1.72	6.08	MMbbls
7,400' Deep associated Gas	0.1	1.66	8.88	Bscf

Sun and Pinnacle each have 50% working interest in the project, so 50% of the resources are attributable to each company.

### Well Performance

RISC independently modelled a horizontal well performance in the 7400' under reservoir simulation and concluded the initial production rate from a single crestally located well could be 2,000 bopd with an estimated ultimate recovery (EUR) of approximately 650,000 bbls in 3 years, based on RISC's P50 STOIP volumes and log derived rock properties in the 7,400' sand. RISC has not assessed the commerciality of the simulation derived forecast and associated EUR.

### Economic Feasibility

Sun has prepared economic modelling of the field<sup>5</sup>:

- Assuming two (2) horizontal development wells are drilled, the minimum economic recovery is assessed to be approximately 0.5 MMbbls assuming a (WTI) oil price of US\$60/bbl and state royalty of 21%. The 2C resources are estimated by RISC to be 0.76MMbbls. The associated gas production has not been attributed value in this case and would further enhance the field economics.

<sup>4</sup> As the State Royalty of 21% is a financial Royalty (no right to take in-kind) the Resources attributable to the JV are 100%.

<sup>5</sup> RISC has not audited the Sun economic modelling and the associated statements as to economic feasibility.



- Operating costs are expected to be under US\$2 million per annum. Assuming 2.5 million bbls of recoverable oil from 5 wells (A combination of prospective resources and contingent resources), the breakeven oil price would be in the order of US\$25/bbl. The associated gas production has not been attributed value in this case and would further enhance the field economics.

## Forward Program

In order to prove commerciality of the contingent resources in the 7400' sand and discover and appraise resource in the 7400' Deep sand, Sun and Pinnacle intend to drill and test an appraisal well. This will most likely include drilling a near vertical pilot hole through the entire reservoir to collect data and a horizontal well section to prove well deliverability.

As the permitting process takes approximately 12 weeks, and the hurricane season runs from June to September, the most likely date for drilling is now set as fourth Quarter 2018.

During the interim, Sun and Pinnacle will prepare the detailed drilling program (the initial well is estimated to cost approximately US\$3.25 million) and seek a farm in partner to participate in the project and also fund the drilling.

## PROJECT BACKGROUND & TECHNICAL DETAILS

### Bowsprit Highlights

The JV parties have named the field "Bowsprit".

- The leases are located in the shallow protected transition zone waters of Breton Sound, St Bernard Parish, Louisiana, close to existing infrastructure; and
- It is a conventional, light oil re-development project that has previously produced sweet oil<sup>6</sup>.
- The field is covered by high quality 3D seismic which has been purchased and interpreted by Sun and RISC.
- Whilst the field has been proven to produce oil, the commerciality of the project will be subject to proving a horizontal well will flow at commercially significant rates.
- An appraisal well is required to assess the field (and secondary targets) for porosity, reservoir quality and oil properties.

### Details of the Louisiana Oil Leases

As announced on 16 March 2018, Sun and Pinnacle have, subject to execution of the formal lease documents with the State of Louisiana in the coming weeks, been awarded a second Petroleum Lease of 155 acres (0.63km<sup>2</sup>) in the Breton Sound Area of Louisiana (Figure 3). This lease is contiguous with the existing 1,000 acre lease (SL21754) and together cover the bulk of the field/prospect. Consistent with an MOU between the parties previously executed, the Lease interests will be on a 50/50 working interest basis.

The project is located approximately 70km southeast of New Orleans in approximately 3m of water. There are 16 historical wells, drilled between 1952 and 1982, within the lease and extensive existing 2D and 3D seismic over the lease. The leases are near the boundary of St Bernard and Plaquemines Parishes that covers the transition zone from onshore to the federal waters offshore Louisiana. The two Parishes have produced a combined 1.2 billion barrels of oil and 5.2 trillion scf of gas since 1978. The area is a prolific hydrocarbon province with over 1,800 wells drilled in the St Bernard parish alone.

<sup>6</sup> Sun has records from 1960 to 1967 showing oil total production of 76,420 bbls and 1Bsf from the sands at ~7,200' and 7,400'. Production reported for state royalty calculation available through Louisiana government at [www.sonris.com](http://www.sonris.com)

Bowsprit is assessed to contain an undeveloped conventional Miocene aged oil sand at a depth of approximately 7,400ft (2,255m) that is located above a deeper 9,500ft gas field that was developed in 1960s by Shell and produced through to 1990s. Consequently, the Bowsprit field contains 14 vertical well penetrations and has demonstrated producible oil. The 20 to 50ft thick oil sand(s) was flowed successfully from four wells and produced approximately 75,000 bbls of oil and an additional 1Bscf of gas from the 7,200ft zone, but was not of commercial significance at the time (~40 bopd per well). The deeper gas field was abandoned and the area relinquished by the former owners in the 1990s prior to the advent of horizontal drilling.

### **Conceptual Development Plan**

For development planning purposes, Sun prepared a deterministic "Planning Case". This Planning Case assumes both the 7,400' and 7,400' Deep sands contain moveable oil and that the prospective resources are actually discovered by the appraisal well.

Assuming five (5) development wells, Sun estimates the recoverable oil for the field, (100% Gross basis) to be 2.5MMbbls or greater depending on well performance. This explicitly assumes the unrisks P50 prospective resources are proven to exist.

Sun's development concept is to place horizontal wells into the field which will have the effect of:

1. Producing at good initial rates (anticipated to average 1,000 bopd or greater);
2. Connecting to multiple sands/channels if the sands prove not to be continuous or are thinly interbedded; and
3. Draining the entire structure as efficiently as practical.

The co-venturers envisage that the Bowsprit structure could potentially be produced through a simple unmanned production platform with sales via new 2.5km export pipelines. The platform and processing facilities are estimated to cost approximately US\$4.5million including installation.

A provisional drilling cost estimate of US\$3.25million has been prepared by Louisiana based Brammer Engineering consultants for a pilot hole and horizontal well section of 1,500ft. Subsequent horizontal development wells are estimated to cost US\$3million each.

RISC and Sun map the field slightly differently and appraisal drilling is likely to indicate the actual physical structure of the field. The crestal well placements are similar in both cases (assuming prospective resources are proven to be present).

On this basis the field is considered to be commercially viable to develop. Subject to confirmation of a commercial flow rate, the appraisal well may be suspended as a future producer and the Joint Venture will commence full field development planning and implementation as rapidly as practical, with a view to commencing field production in 2019. Future Joint Venture appraisal and development plans will be announced to the market as they are firmed up.

Yours faithfully  
**SUN RESOURCES NL**



Craig Basson  
**Company Secretary**

**APPENDIX Material - Figures & Statements**

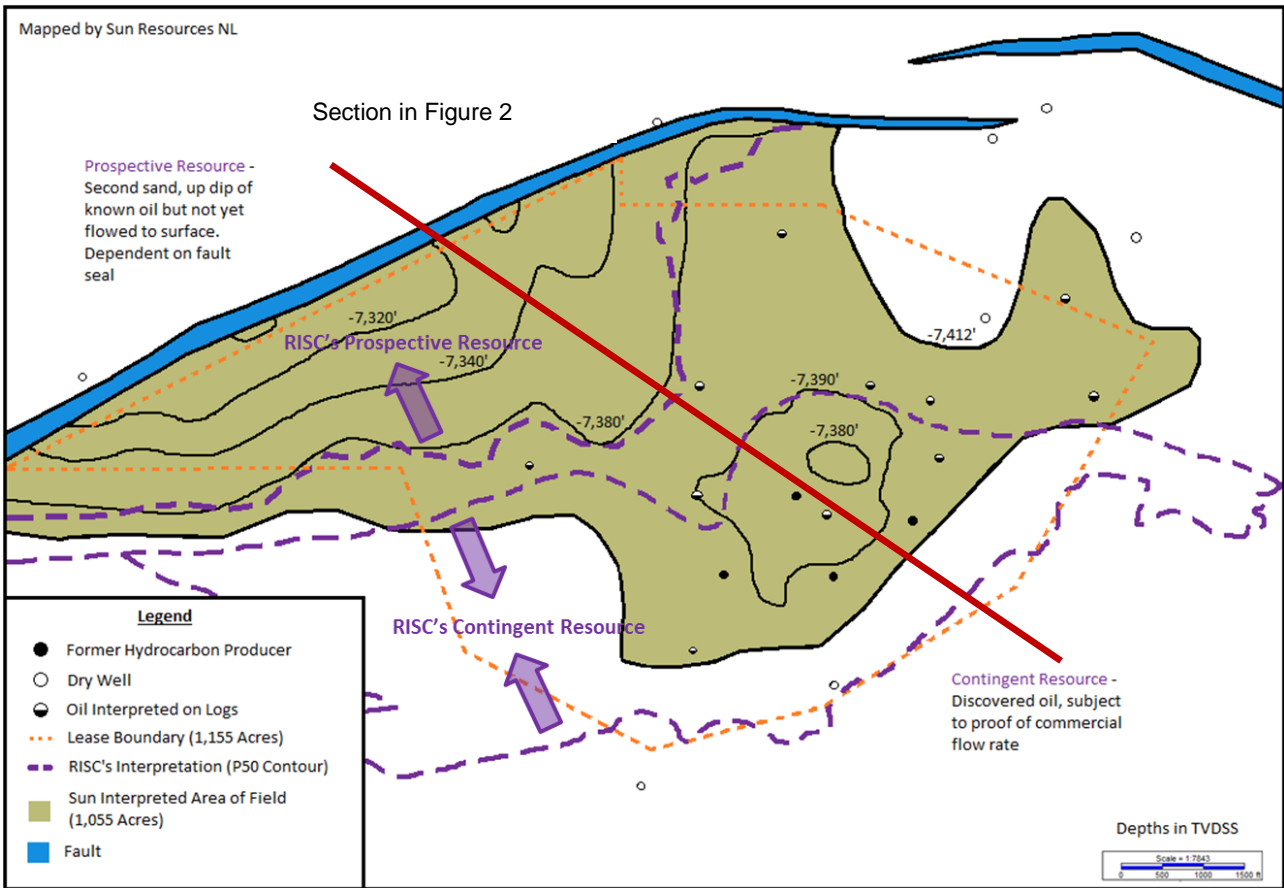


Figure 1 -Field Schematic showing designated resource areas for 7,400' reservoir

RISC maps part of the accumulation outside of the existing Leases and has constrained the attributable resources to the actual lease areas held by Sun.

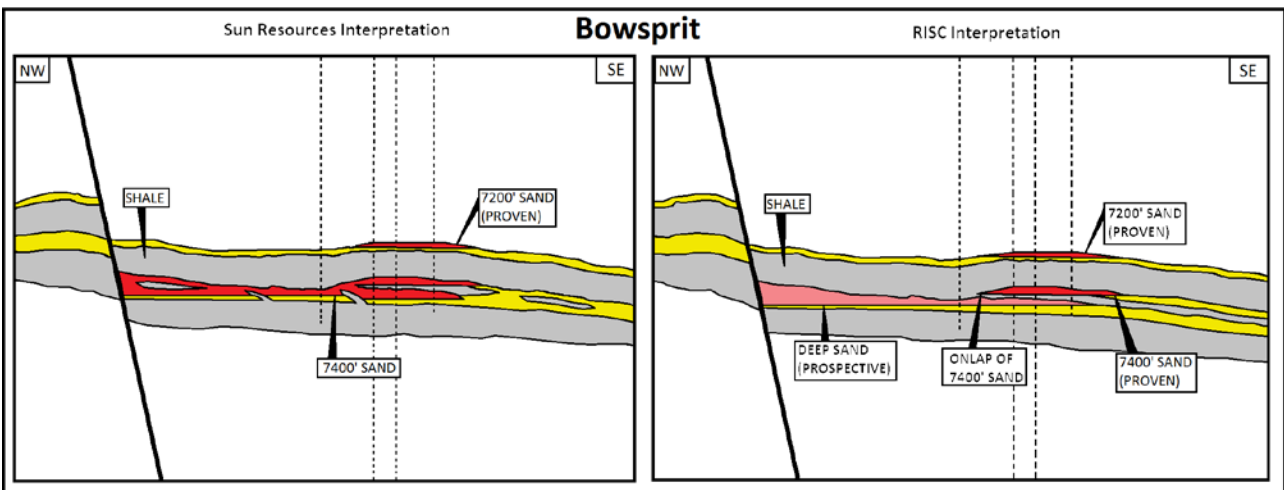


Figure 2 - Schematic showing difference in Sun/ RISC interpretation

RISC has assessed the project and is of the view that there may be a seal between the upper and lower (Deep) sands in the 7,400' Zone and that the upper sand onlaps on to the deep sand and pinches out. Sun recognises the two sands but is of the belief that the shale between to two is unlikely to be continuous and the shale separation between the two sands is unlikely to be sealing at the pinch out. Furthermore, Sun interprets the logs in the wells to the north west of the saddle to contain mobile hydrocarbons.





material, which reflect various assumptions. The assumptions may or may not prove to be correct. Statements contained in this presentation, including but not limited to those regarding the possible or assumed future costs, performance, returns, production levels or rates, oil and gas prices, reserves, potential growth of Sun Resources NL, industry growth or other projections and any estimated company earnings are or may be forward looking statements. Such statements relate to future events and expectations and as such involve known and unknown risk and uncertainties, many of which are outside the control of Sun Resources NL. Actual results, actions and developments may differ materially from those expressed or implied by the statements in this release. All forward-looking statements or estimates made in this release are qualified by the foregoing cautionary statements. Investors are cautioned that forward-looking statements and estimates are not guarantees of future performance and accordingly, investors are cautioned not to rely on forward-looking statements or estimates due to their inherent uncertainty therein.

## **About Pinnacle**

Pinnacle Exploration Pte. Ltd. ("Pinnacle") is a private, upstream oil and gas company incorporated in Singapore. Pinnacle's focus and expertise is the shallow water, oil and gas opportunities in the prolific Salt Dome Basin of the Gulf of Mexico. The Board of Pinnacle have considerable experience in this oil rich province, where much of the historic production of Louisiana Sweet Crude has been from conventional structures and reservoirs at depths less than 3,000 metres. Three of the Directors of Pinnacle are Craig Martin (MD), Robert Fisher (Chairman) and James Brown, who are former colleagues of Alex Parks and Bill Bloking.