

## ASX ANNOUNCEMENT

11 September 2019

# BOWSPRIT OIL PROJECT GAINS MOMENTUM

Sun Resources NL (“Company” or “Sun”) is pleased to provide a Bowsprit Project update

### Highlights

- **Farm out process has commenced and discussions already underway with some interested parties**
- **First well location moved 450ft west to intersect better sands above known oil increasing the confidence of the deliverability of the field**
- **Final well site survey was completed on 9 September 2019 to facilitate and finalise drilling permitting applications**
- **New logs and improved seismic have identified an additional lead in Middle Miocene that can be drilled with the current pilot well**
- **SUN to present on Thursday 12<sup>th</sup> September 8:50am at the upcoming pre-eminent oil and gas investment forum for junior and emerging oil and gas companies– RIU Good Oil Conference.**

The Bowsprit Petroleum Leases cover a total of 1,154 acres in the Breton Sound Area, inland waters of Louisiana USA.

Following the acquisition of 100% of the Bowsprit leases in July<sup>1</sup> and subsequent capital raising, Sun has been rapidly progressing the Bowsprit project. The annual lease rental payments were made on 10 August 2019, and the Company has been preparing to initiate a farm out process to attract a new partner for the project and assist in the funding of the appraisal well planned for Q1 2020. The project farm-out flyer is included in Appendix 2 of this release, and the Company is already in discussions with some interested parties.

### Permitting of Well

The Company’s consultants (Fenstermaker and Brammer) conducted the final well site surveys this week and the drilling permitting applications will be submitted shortly. Permitting is expected to be complete in/by December 2019. Once secured the permit to drill remains valid for 12 months.

Primarily Fenstermaker was assessing the area for oyster seed beds for coastal permit environmental approvals, and Brammer was assessing the seabed firmness for the drilling rig and scoping prospective tie back / export routes for the field production. No oyster seed beds were found in the area surveyed and the sea bed appears to be a firm mud and sandy bottom.

### Geoscience – New Logs and Improved Seismic (See Cautionary Statement)

Sun has continued to work the geoscience data and found additional data in late June 2019 via a US based consulting geologist. The Company was able to obtain some higher resolution logs and 1960’s production test data for the Bowsprit field not previously located.

The production test data included daily production rates for the wells, flowing well head pressures, GOR and water cut data not previously held. This data showed the 1960’s wells were typically

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<sup>1</sup> See ASX announcement 29 July 2019

flowing with well head pressures of 900psi. As a result, the Company has increased confidence in the deliverability of the field.

The field top structure map and mapped structural closure has remained essentially unchanged since the 3D seismic was first licensed and interpreted in early 2018 (Figure 2). The newly discovered higher resolution log data has been digitised and specifically included sonic logs that have been valuable in improving the seismic interpretation and the mapping of the field area.

The mapping of the internal geometry of the sands has previously been the biggest challenge with poor quality logs. The facies modelling conducted in the 3D geological modelling and the new higher resolution and digitised logs have resulted in a much better understanding of the field. The Bowsprit Field is assessed to be located at the sequence boundary of the middle and upper Miocene depositional periods. The 7,400' sand is now determined to be an Upper Miocene sand, and the 7,400' Deep sand a Middle Miocene sand.

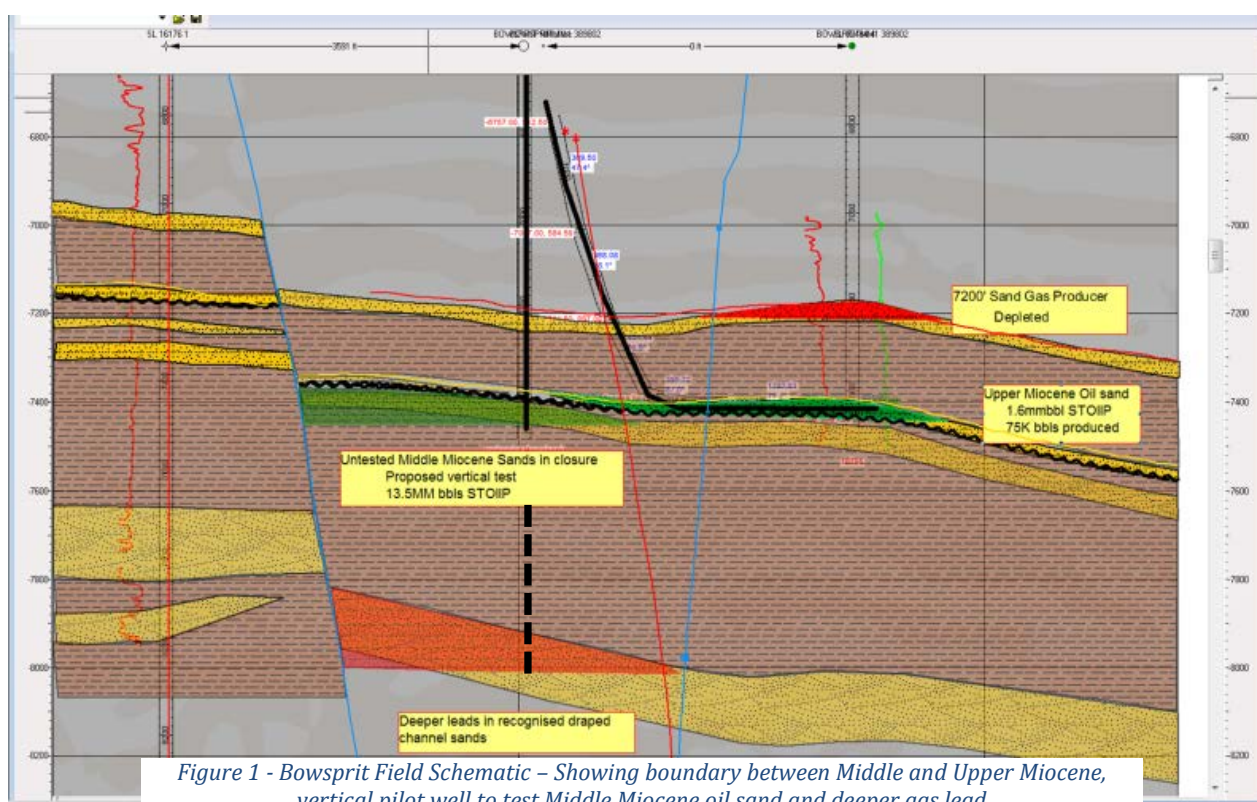


Figure 1 - Bowsprit Field Schematic – Showing boundary between Middle and Upper Miocene, vertical pilot well to test Middle Miocene oil sand and deeper gas lead

### Deterministic Mapping for Well Location Planning

Sun Resources and its consultants have prepared deterministic “best case” maps and volumetrics to aid in well location planning and project evaluation. These maps consider target areas within the structural closure, and the associated volumes fall within the range of probabilistic estimates prepared by RISC Advisory Ltd. Whilst all due care and attention has been applied, the maps are single scenario cases only. The STOIIP numbers associated with the Sun maps broadly align with RISC statistical estimates of the range. The official resource estimates for the field remain unchanged, and are as reported by RISC, as detailed in the ASX release of 5 April 2018, and reproduced in Appendix 1.

### Upper Miocene Sand

The Upper Miocene sand at 7,400ft, (that produced 76,000bbls in 1960’s) has now been evaluated by Sun (see cautionary statement) to have a deterministically derived STOIIP estimate of at least 1.6MMbbls (RISC 1C 0.7MMbbls, 2C/P50 5MMbbls) of which RISC estimate Contingent Resources of 0.76MMbbls (2C). Of this Sun mapped STOIIP >95% sits within the Companies



Leases. (see Figure 1). This map has been used to determine the optimal location for the horizontal section of the appraisal well.

### Middle Miocene Sand

The Company has been able to map a good quality Middle Miocene sand (previously called 7,400' Deep). The sand has been mapped within the structure and consequently the appraisal well location has been moved approximately 450ft to the west of the previous location to better intersect these good quality sands above the known (flowed) oil.

In the Middle Miocene sand, designated as "Prospective Resources" by RISC<sup>2</sup>, the deterministic mapping by Sun has focussed on the good quality sand, that lies structurally up dip of the proven oil in the Upper Miocene sand. Sun estimates an un-risk adjusted "best case" volume of 13.5MMbbls STOIP (RISC P50 Prospective STOIP 11.8MMbbls). RISC estimate the Probability of Success of the contingent resources at 20%. If developed with adequate drilling, the associated Prospective Resources are 1.72MMbbls (RISC Best Estimate).

*Cautionary Statement – Prospective Resources are the estimated quantities of petroleum that may potentially be recovered by the application of a 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. See full Cautionary Statement and full resource definitions below.*

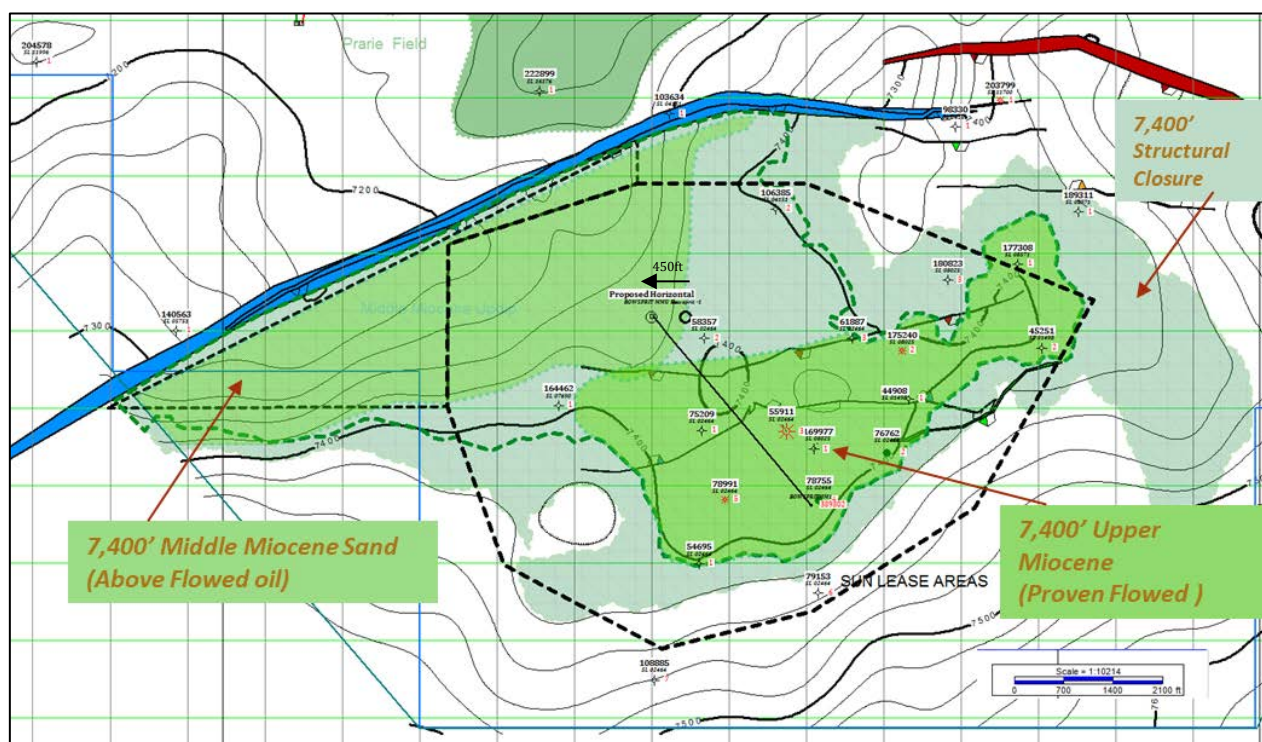


Figure 2- Bowsprit top structure map and designated field areas at ~7,400ft, and revised pilot hole location 450ft west to target good quality Middle Miocene Sand in the area that is comfortably above the depth of known Upper Miocene oil.

<sup>2</sup> See ASX release 5 April 2018 and Appendix 1  
[http://www.sunres.com.au/irm/PDF/2805\\_0/IndependentResourceAssessmentforBowspritOilProject](http://www.sunres.com.au/irm/PDF/2805_0/IndependentResourceAssessmentforBowspritOilProject)

### **Additional Target Sand “Lead”**

The logs and improved seismic interpretation have also resulted in the identification of a further lead - a Middle Miocene channel sand that appears to close against the bounding fault to the north west. This sand is approximately 500ft below the current field and can be easily evaluated by increasing the intended depth of the pilot hole by ~500ft for minimal additional cost. Envisioned to be a gas sand, provisional prospective estimates are ~21bcf of gas initially in place (Deterministic, unrisks, Best Estimate). If present the Prospective Resources may be 66% of this volume, approximately 14bcf, plus condensate. At this point, sand is designated as a lead, and the Chance of Success is currently estimated to be in the range of 5-10%, until further work is completed. This sand was not reviewed by RISC in their evaluation.

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### **RIU Good Oil Conference.**

Sun CEO Alex Parks present will be presenting on Thursday 12<sup>th</sup> September 8:50am at the upcoming pre-eminent oil and gas investment forum for junior and emerging oil and gas companies – RIU Good Oil Conference. The conference is being held at the Hyatt Regency Hotel Perth and the Company will be releasing an updated shareholder presentation ahead of the scheduled presentation.

### **Quote**

Commenting on the release Alex Parks, CEO of Sun Resources said, “The Company is very pleased with the progress made on the Bowsprit project and is ready to invite prospective partners to view the project, for potential farm-in. The prospective sands that will be evaluated by the appraisal well in Q1 2020 well are material to Sun, and the horizontal well targeting the proven flowed oil sand, offers downside protection. Overall, I believe the project will be attractive to prospective partners”

**Competent Person Statement-** All of the technical information, including information in relation to reserves and resources that is contained in this document and is based on, has been reviewed internally by the Company’s Managing Director, Mr Alexander Parks. Mr Parks is a Petroleum Engineer & SPE member, who is a suitably qualified person with over 20 years’ experience in assessing hydrocarbon reserves and has reviewed the release and consents to the inclusion of the technical information.

### **Full Cautionary Statement and Definitions**

The STOIP / GIIP (Contingent and Prospective) estimates reported in this release are deterministic cases prepared by Sun Resources and it’s consultants. These estimates fall within the range of probabilistic estimates prepared by RISC Advisory Ltd and whilst all due care and attention has been applied, are single scenario cases only. The full official resource estimates for the field remain materially unchanged, and are as reported by RISC, as detailed in the ASX release of 5 April 2018, and reproduced in Appendix 1.

### **SPE Definitions.**

#### **Contingent Resources**

Contingent Resources are those quantities of petroleum which are estimated, on a given date, to be potentially recoverable from known accumulations, but which are not currently considered to be commercially recoverable. Contingent Resources may include, for example, accumulations for which there is currently no viable market, or where commercial recovery is dependent on the

development of new technology, or where evaluation of the accumulation is still at an early stage.

#### *Undiscovered Petroleum Initially-in-Place*

Undiscovered Petroleum-initially-in-place is that quantity of petroleum which is estimated, on a given date, to be contained in accumulations yet to be discovered. The estimated potentially recoverable portion of Undiscovered Petroleum-initially-in-place is classified as Prospective Resources, as defined below.

#### *Prospective Resources*

Prospective Resources are the estimated quantities of petroleum that may potentially be recovered by the application of a 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

### **Bowsprit Summary**

Following completion of the buyout of Pinnacle<sup>3</sup>, Sun will hold and operate both Bowsprit Petroleum Leases at 100% working interest, covering a total of 1,154 acres in the Breton Sound Area of Louisiana.

The Leases are located approximately 70km southeast of New Orleans in approximately 3 meters of water. There are 14 historical wells, drilled between 1952 and 1982, within the Leases and extensive existing 2D and 3D seismic over the Leases. The Leases are near the boundary of St Bernard and Plaquemines Parishes that cover the transition zone from onshore, to the federal waters offshore Louisiana. The region is a prolific hydrocarbon province, where the majority of exploration and production occurred in the 1960's and 1970's, and the two Parishes have produced 1.2 billion barrels of oil and 5.2 trillion scf of gas according to the public available records which commenced in 1978.

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 deep gas and condensate field that was developed in 1960's by Shell and produced through to early 1990s. Consequently, the Bowsprit field contains 14 vertical well penetrations and has demonstrated producible oil. One 20 to 50ft thick oil sand was flowed successfully from four vertical wells and produced approximately 75,000 bbls of oil. Approximately 1 Bscf of gas was produced from an overlying sand at 7,200 ft. Limited to vertical well technology of the day, full field development was not commercially practical at the time (initial well production rates of ~100 bopd declining to ~40 bopd). The whole area was relinquished by the former owners in the 1980s prior to the advent of horizontal drilling.

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<sup>3</sup> See ASX release 29 July 2019



## Appendix 1

RISC Advisory Estimates of Resources and STOIP for 100% of Bowsprit <sup>4</sup>.

RISC Advisory Ltd probabilistically estimated the following contingent and prospective resources for the Bowsprit Project as of 15 March 2018: *RISC's independent estimate of resources for the field within polygon of held leases is tabulated below* (Sun increased from 50% to 100% Working Interest July 2019<sup>5</sup>)

	Contingent Resources 100% of Field (within lease polygons)			
Sand	1C	2C	3C	Units
7,200'	0.14	0.42	0.76	Bscf
7,400' (Upper Miocene)	0.08	0.76	1.7	MMbbls
7,400' Associated Gas	0.08	0.84	1.9	Bscf

	Unrisked Prospective Resources 100% of Field			
Sand	Low	Best	High	Units
7,400' Deep (Middle Miocene)	0.1	1.72	6.08	MMbbls
7,400' Deep associated Gas	0.1	1.66	8.88	Bscf

	Potential Hydrocarbons Initially in Place Whole Structure				
Sand	P90	P50	P10	Units	Status
7,200'	1.47	1.89	2.37	Bscf	Proven in Place Flowed 1Bscf in 1960's
7,400' (Upper Miocene)	0.7	5.01	12.6	MMbbls	Proven in Place Flowed 75,700bbls in 1960's
7,400' Deep (Middle Miocene)	0.99	11.8	49.00	MMbbls	Prospective Possible separate sand unit. Up dip of know (flowed) oil, resistivity on logs, but not yet flowed to surface

The Contingent Resources of the 7,400' Sand (Upper Miocene) are contingent on Sun drilling an appraisal well confirming horizontal well deliverability at commercial rates.

The 7,400' Deep sand (Middle Miocene) designated as Prospective Resources, has not been flowed to surface. Conversion to contingent resources or reserves is contingent on an appraisal well confirming "resistivity kick" on logs is actually producible oil.

<sup>4</sup> See ASX release 5 April 2018.

[http://www.sunres.com.au/irm/PDF/2805\\_0/IndependentResourceAssessmentforBowspritOilProject](http://www.sunres.com.au/irm/PDF/2805_0/IndependentResourceAssessmentforBowspritOilProject)

<sup>5</sup> See ASX release 29 July 2019

# Bowsprit Farm-out Flyer

## Summary

- Sun holds 100% of Leases SL21754 & SL21787 (74%NRI), covering 1,155 acres, in <3m of water, located 70km SE of New Orleans in Breton Sound area. The surrounding areas have produced >1.2 billion bbls and 5tcf.
- Leases contain former fields, prospects and leads. Shell discovered a gas field in 1955 at 9,500ftTVD (~46bcf produced).
- Primary project is Bowsprit Field, a re-development of a small proven oil field, containing light sweet crude.
- Bowsprit discovered by Shell wells, 7,400ft deep, ~30ft sand, produced ~76,000bbls from vertical wells in 1960's, ~100bopd /well, not commercial for full field. Sun plans to re-develop using horizontal well(s).
- Horizontal well in nearby analogous field was production tested at 1,500bopd. RISC modelled a 1,200ft horizontal crestal well, in the Upper Miocene sand between two former producers as capable of up to 2,000bopd and EUR of 670,000bbls.
- High Quality 3D seismic shot 1997, reprocessed in 2014.

## Work Program

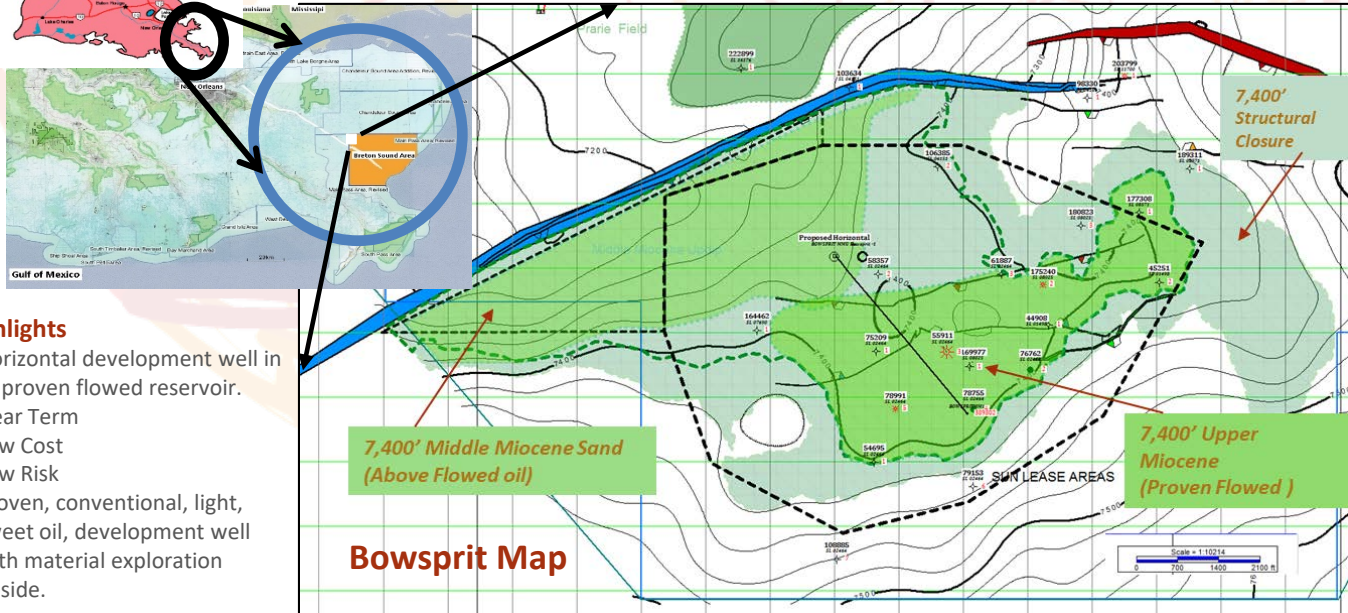
- 8,000ft vertical pilot hole to test two Middle Miocene prospects
- Horizontal section to be completed in proven sand, at 7,400ft TVD
- DST to prove commercial rate (IP up to 2,000bopd)
- Suspend and potentially tie back to nearby facility

## Schedule

- Site Survey September 2019
- Well Permitted by December 2019
- Drilling Q1 2020
- Production Q3 2020

## Indicative Farm out Terms

- 2 for 1 on single well or 1/3 for 1/4 on program
- Well Cost US\$3.6 million (Inc. DST)
- Tie-Back ~ US\$ 1 million
- Proportional contribution to back costs of US\$1million



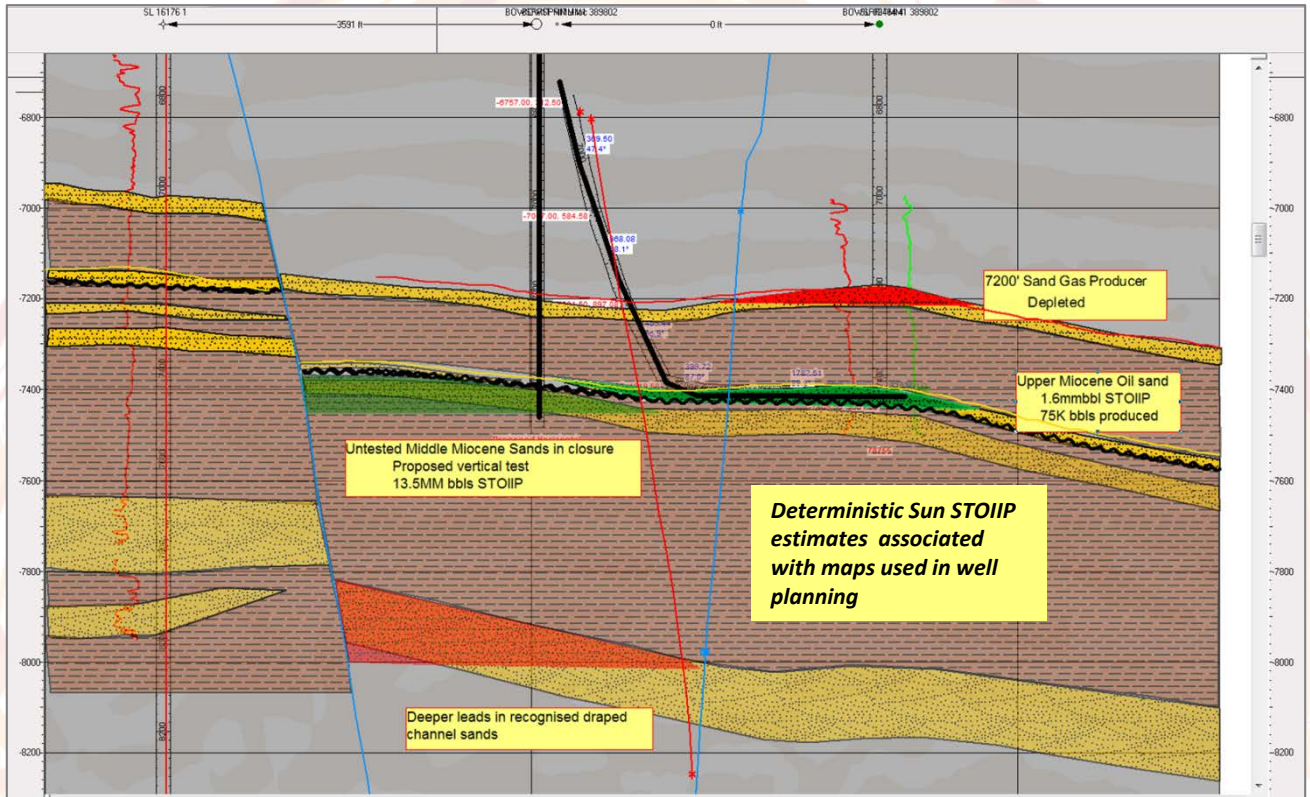
## Highlights

- Horizontal development well in to proven flowed reservoir.
- Near Term
- Low Cost
- Low Risk
- Proven, conventional, light, sweet oil, development well with material exploration upside.

RISC STOIPP	RISC Potential Hydrocarbons Initially in Place Probabilistic				Status
Sand	P90	P50	P10	Units	
7,400' (Upper Miocene) Contingent Resources	0.7	5.01	12.6	MMbbls	Proven field – flowed 76,000 bbls in 1960's. Contingent on drilling & test hoz well.
7,400' Deep (Middle Miocene) Prospective Resources	0.99	11.8	49.00	MMbbls	Indications of oil on logs, but not yet flowed to surface (RISC COS 20%). Contingent on flowing to surface.



## Bowsprit -1 Well Path



### Well Cost

Well Scenario	US\$ million
Cost estimate Brammer 2019	
Pilot Vertical to 8,000ft, log, samples 1500 ft horizontal, 36-hour DST, Suspend	3.6 with DST 2.8 (dry hole)

### Barge Rig ~US\$30,000/ day



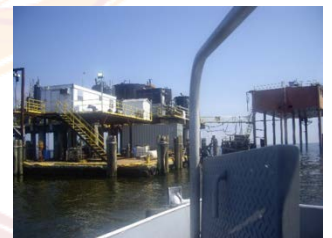
### Project Development Costs

Assumptions	US\$ Million
Horizontal wells each	3.0 each
Unmanned Production Facilities	4.5
Tie back / export pipelines (2.5km)	0.6
US\$60/bbl, US\$2.50/Mscf, 2% escalation Royalty 26%, Sev Tax 12.5%	
A Single well development may be via tie back pipeline to a nearby facility at cost ~\$1million for early cash flow, OPEX ~\$7/bbl including processing toll	

### 1960's Production History

Field	Well #	Well Serial #	Sand	Perforation Depth (ft)	Spud Date	Plugged & Abandoned	Allocated Cumulative Oil (bbl)	Allocated Cumulative Gas (MMCF)	Comments
1864	1	75209	-	-	26-May-59	-	-	-	Not a producer.
1864	2	76762	7400'	7430 - 7435	24-Sep-59	24-Mar-70	3,280	2	Only Produced for 2 months in 1960.
1864	3	55911	7400'	7421 - 7423	15-Mar-55	08-Apr-70	55,506	82	Predominant oil producer.
1864	4	78755	7200' 7400'	7119 - 7122 7429 - 7432	07-Mar-60	19-Mar-70	0 15,879	904 18	Predominant gas producer. Produced oil in the 7400' sand and was the only gas producer in the 7200' sand.
1864	5	78991	7400'	7440 - 7450	27-Mar-60	17-Mar-70	1,755	81	Produced at low rates until it was plugged and abandoned.
<b>TOTALS</b>							<b>76,420</b>	<b>1,087</b>	

### Typical Production Facility



### For Further Information

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