

6 August 2018

# INDEPENDENT REPORT CONFIRMS ALMOST THREEFOLD INCREASE IN RESERVES AT SM 71

- Report confirms gross (100%) 2P reserves<sup>1</sup> have increased by 10.6 MMboe to 16.2 MMboe since 2017 – 6.6 MMboe net to Otto at 30 June 2018
- Reserves at SM 71 have increased nearly threefold as a result of the D5 sand production performance and development drilling results
- Otto's NRI share of 2P reserves<sup>1</sup> is 6.6 MMboe and 1P is 2.5 MMboe
- Additional 3P reserves in the B65, B55, J, J1 and I3 sands
- Field estimated to produce until 2037 under the 2P estimate

Otto Energy Limited (ASX: OEL) ("Otto" or the "Company") is pleased to provide an update on the Company's reserves and resources position for its 50% owned South Marsh Island Block 71 ("SM 71") oil producing project, in the shallow waters of the Gulf of Mexico as independently assessed by Collarini Associates ("Collarini").

The Collarini report is effective as of 30 June 2018 and is the first independent reserve report for the SM 71 project since production began in March 2018. All reserves quoted below are remaining reserves, excluding production of approximately 349,000 barrels of oil and 240 MMcf of gas (gross) through 30 June 2018.

SM 71	Gross (100%)			Otto Net (40.625%)			
	Oil	Gas		Oil	Gas		
	(Mbbl)	(MMscf)	MBoe	(Mbbl)	(MMscf)	MBoe	
Proved Producing	3,466	2,130	3,821	1,408	865	1,552	
Proved Behind Pipe	609	380	672	248	155	274	
Proved Undeveloped	1,404	868	1,549	570	352	629	
Proven (1P)	5,479	3,378	6,042	2,226	1,372	2,455	
Probable	9,030	6,974	10,192	3,668	2,833	4,140	
Proven Plus Probable (2P)	14,509	10,352	16,234	5,894	4,205	6,595	
Possible	4,651	3,970	5,313	1,890	1,613	2,159	
Proven Plus Probable Plus							
Possible (3P)	19,160	14,322	21,547	7,784	5,818	8,754	
Total Prospective Resource							
(best estimate, unrisked)	954	47,687	8,902	387	19,373	3,616	

The SM 71 reserves<sup>1</sup> and resources as at 30 June 2018 are as follows:

Prospective Resource - 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.

1. Reserves - The aggregate 1P may be a very conservative estimate and the aggregate 3P may be a very optimistic estimate due to the portfolio effects of arithmetic summation

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### Update on SM 71

Collarini has estimated an increase in 2P reserves of 4.3 MMboe net to Otto (excluding production to 30 June 2018) a near tripling of the 2017 2P reserves estimate.

The significant increase in all key reserve categories is directly due to the success of the appraisal and development drilling program in 2017/18. Both the thicker than expected net oil zones and exceptional well performance to date from the D5 producing sands in both the F1 and F3 wells are contributing factors to the positive additions and revisions to the Company's reserves. For further discussion on the increase in reserves refer to Appendix A.

Production from the SM 71 F platform began in March 2018. Two wells were completed in the D5 Sand and the third well in the B65 Sand. Oil production rate from D5 sand at both the SM 71 F1 and F3 wells has exceeded expectations. As of 3 August 2018, the SM 71 F1 and F3 wells are averaging approximately 4,000 barrels of oil and 3.0 million cubic feet of gas daily with no formation water produced to date. SM 71 platform sales have totalled approximately 349,000 barrels of oil and 240 MMcf of gas (gross) through 30 June 2018.

At WTI of US\$70/bbl Otto will currently realise ~US\$65.50/bbl net (after transport and before Federal royalties). Realised oil prices take into account adjustments for transportation, processing fees and uplift, and quality adjustments. Transportation and production costs are averaging around US\$8.50/boe. Gas prices currently realised are Henry Hub gas price less US\$0.27/mmbtu.

Further details on SM 71 reserves and resources are included in appendices A and B. Appendix C contains additional notes on the SM 71 reserves and resources statement.

Otto holds a 50% working interest (40.625% net revenue interest) in SM 71 through a wholly owned subsidiary Otto Energy (Louisiana) LLC. The operator, Byron Energy Limited (ASX:BYE) holds the remaining 50% working interest.

Otto's Managing Director, Matthew Allen, commented: *"The tremendous reserves upgrade announced today for SM 71 further endorses the quality of this high-margin oil field and its ability to support our growth in the region for many years to come.* 

*"We now look forward to drilling the first prospect, Big Tex, with Hilcorp and the Bivouac Peak prospect with Byron. Both are expected to commence later this month."* 

Otto's Chairman, John Jetter, also commented: "This exciting upgrade verifies our strategy of focusing all of our investments on the US in general and the Gulf of Mexico in particular. We look forward to working with our various partners in the US to build our US business, with an exciting program of 10 wells to be drilled over the next 18 months."

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# Appendix A – Additional Information on SM 71 Reserves as at 30 June 2018

The following table reconciles the movement in Otto's SM 71 reserves between 30 June 2017 and 30 June 2018. The numbers below are based on Otto's Net Revenue Interest (NRI) of 40.625%.

Otto Energy Limited Reserves SM 71 (Net to Otto)								
Gulf of Mexico, offshore Louisiana, USA								
Reserves Reconciliation	Oil (Mbbl)				Gas (MMCF)			
	Remaining	Production	Additions & Revisions	Remaining	Remaining	Production	Additions & Revisions	Remaining
	30/06/2017	2018	2018	30/06/2018	30/06/2017	2018	2018	30/06/2018
SM 71 (developed&undeveloped)								
Proved (1P)	581	(142)	1,503	2,226	403	(120)	849	1,372
Probable Reserves	1,445	_	2,223	3,668	1,058	-	1,775	2,833
Proved and Probable (2P)	2,026	(142)	3,726	5,894	1,461	(120)	2,624	4,205
Possible Reserves	536	-	1,354	1,890	370	-	1,243	1,613
Proved, Probable & Possible (3P)	2,562	(142)	5,080	7,784	1,831	(120)	3,867	5,818
				1				

*Note - The aggregate 1P may be a very conservative estimate and the aggregate 3P may be a very optimistic estimate due to the portfolio effects of arithmetic summation.* 

# Material Changes to Reserves

# Proved and Probable Reserves - Net of Actual Production

The increase in proved and probable reserves is due to the successful SM 71 F2 ("F2") appraisal well drilled in December 2017 and the SM 71 F3 ("F3") development well drilled in January 2018. Significantly thicker than predicted oil bearing sands were logged in the drilling of the SM 71 F2 and F3 wells in the D5 Sand which has resulted in reserve additions and upgrades. Additionally, flow rates from the F1 and F3 wells have continued to exceed pre-start-up predictions resulting in positive revisions to expected recoveries.

Drilling of the B65 Sand in the SM 71 F2 well resulted in a positive reclassification of a portion of Prospective Resources to the Proved and Probable Reserves categories. Although the SM 71 F2 well has experienced premature pressure depletion, suggesting the well is in an isolated compartment, the reservoir is mapped well beyond the small drainage area of the SM 71 F2 well. The Operator expects to side-track the F2 well in the future to intersect and produce those reserves.

72% of the remaining proved and probable reserves are classified as developed or behind pipe with the balance classified as undeveloped.

## Possible Reserves

The increase in possible reserves at SM 71 is mainly due to: -

- (a) Potential upside recoveries and drainage areas from the producing D5 reserves
- (b) The reclassification to possible reserves of a material proportion of the prospective resource previously attributed to the B65 Sand, and
- (c) the addition of the possible reserves attributed to the B65, J-1 and D5 sands as result of the development drilling in 2017/18.



## Appendix B – Prospective Resource as at 30 June 2018

The following table shows SM 71 prospective resource as at 30 June 2018 compared to 30 June 2017.

SM 71 Prospective Resources							
Gulf of Mexico, offshore Louisiana, USA							
	Gross (100%)			Otto NRI Share - 40.625%			
Best Estimate Unrisked	Oil	Gas		Oil	Gas		
30 June 2018	MBBL	MMCF	MBOE (6:1)	MBBL	MMCF	MBOE (6:1)	
Total Prospective Resource (2018)	954	47,867	8,932	387	19,373	3,616	
Total Prospective Resource (2017)	5,913	52,912	14,732	2,402	21,495	5,985	

## **Material Changes to Prospective Resources**

The decrease in prospective resources is due to reclassification of all of the 2017 B65 Sand prospective resource into proved, probable and possible reserves in 2018 following successful discovery, appraisal and development drilling and some production.



SM 71 F Platform – Gulf of Mexico



#### Appendix C – Notes to SM 71 Reserves and Resources Statement

#### Reserves and Resources Governance

Otto's reserves estimates are compiled annually. The operator of SM 71, Byron Energy, engages Collarini and Associates, a qualified external petroleum engineering consultant, to conduct an independent assessment of the SM 71 reserves on behalf of the joint venture. Collarini and Associates is an independent petroleum engineering consulting firm that has been providing petroleum consulting services in the USA for more than fifteen years. Collarini and Associates does not have any financial interest or own any shares in the Company. The fees paid to Collarini and Associates are not contingent on the reserves outcome of the reserves report.

#### Competent Persons Statement

The information in this report that relates to oil and gas reserves and resources was compiled by technical employees of independent consultants Collarini and Associates, under the supervision of Mr Mitch Reece BSc PE. Mr Reece is the President of Collarini and Associates and is a registered professional engineer in the State of Texas and a member of the Society of Petroleum Evaluation Engineers (SPEE), Society of Petroleum Engineers (SPE), and American Petroleum Institute (API). The reserves and resources included in this report have been prepared using definitions and guidelines consistent with the 2007 Society of Petroleum Evaluation Engineers (SPE)/World Petroleum Council (WPC)/American Association of Petroleum Geologists (AAPG)/Society of Petroleum Evaluation Engineers (SPEE) Petroleum Resources Management System (PRMS). The reserves and resources information reported in this Statement are based on, and fairly represents, information and supporting documentation prepared by, or under the supervision of, Mr Reece. Mr Reece is qualified in accordance with the requirements of ASX Listing Rule 5.41 and consents to the inclusion of the information in this report of the matters based on this information in the form and context in which it appears.

#### Reserves Cautionary Statement

Oil and gas reserves and resource estimates are expressions of judgment based on knowledge, experience and industry practice. Estimates that were valid when originally calculated may alter significantly when new information or techniques become available. Additionally, by their very nature, reserve and resource estimates are imprecise and depend to some extent on interpretations, which may prove to be inaccurate. As further information becomes available through additional drilling and analysis, the estimates are likely to change. This may result in alterations to development and production plans which may, in turn, adversely impact the Company's operations. Reserves estimates and estimates of future net revenues are, by nature, forward looking statements and subject to the same risks as other forward looking statements.

#### Pricing Assumptions

*Oil price assumptions used in the independent report represent consensus base WTI prices (Citi Research June 8, 2018 Bloomberg Street Consensus), starting on January 1, 2019, of \$US63.00 per barrel, with a final price of \$US62.75 per barrel on January 1, 2021, and held constant thereafter. Natural gas prices used in this report represent a Henry Hub base, starting on January 1, 2019, of \$US3.00 per MMBtu, rising to a final price of \$US3.15 per MMBtu on January 1, 2021, and held constant thereafter. These prices were adjusted to account for transportation cost, basis difference, and oil gravity to arrive at realised prices.* 

#### ASX Reserves and Resources Reporting Notes

- (i) The reserves and prospective resources information in this document is effective as at 30 June, 2018 (Listing Rule (LR) 5.25.1)
- (ii) The reserves and prospective resources information in this document has been estimated and is classified in accordance with SPE-PRMS (Society of Petroleum Engineers Petroleum Resources Management System) (LR 5.25.2)
- (iii) The reserves and prospective resources information in this document is reported according to the Company's economic interest in each of the reserves and prospective resource net of royalties (LR 5.25.5)
- (iv) The reserves and prospective resources information in this document has been estimated and prepared using the deterministic method (LR 5.25.6)
- (v) The reserves and prospective resources information in this document has been estimated using a ratio of 6,000 cubic feet of natural gas to one barrel of oil. This conversion ratio is based on an energy equivalency conversion method and does not represent value equivalency (LR 5.25.7)
- (vi) The reserves and prospective resources information in this document has been estimated on the basis that products are sold on the spot market with delivery at the sales point on the production facilities (LR 5.26.5)



- (vii) The method of aggregation used in calculating estimated reserves was the arithmetic summation by category of reserves. As a result of the arithmetic aggregation of the field totals, the aggregate 1P may be a very conservative estimate and the aggregate 3P may be a very optimistic estimate due to the portfolio effects of arithmetic summation (LR 5.26.7 & 5.26.8)
- (viii) Prospective resources are reported on a best estimate basis (LR 5.28.1)
- (ix) For prospective resources, 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 (LR 5.28.2)
- (x) The reserve numbers assume some investment over the life of the field which goes out to 2037. Proved (1P) reserves assume no wells but some re-completions and a sidetrack. Proved and Probable (2P) reserves assume some re-completions and two sidetracks Proved, Probable and possible (3P) reserves assume a new well in addition to some recompletions and sidetracks.

## <u>Glossary</u>

Bbl = barrels bcf = billion cubic feet boe = barrels of oil equivalent Bopd = barrels of oil per day Btu = British Thermal Units Mcfg = thousand cubic of gas Mcfgpd = thousand cubic feet of gas per day MMcf = million cubic feet MBL = thousand barrels of oil MMBL = million barrels of oil Mboe = thousand barrels of oil equivalent MMboe = million barrels of oil equivalent MCF = thousand cubic feet mmbtu = million British Thermal Units