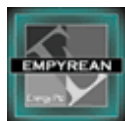


## Regulatory Story

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**Empyrean Energy PLC** - EME 31% Uplift in Prospective Resources in Block 29/11  
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**6 June 2018**

**Empyrean Energy PLC ("Empyrean" or the "Company")**

### **31% Uplift in Best Case Gross Prospective (Un-risked) Resources in Block 29/11 Offshore China**

- **Total best case Prospective Resources increased 31% to 774 MMbbl from 591 MMbbl**
- **Jade Prospect best case Prospective Resources increased 84% to 190 MMbbl from 103 MMbbl**
- **Topaz Prospect best case Prospective Resources increased 19% to 435 MMbbl from 365 MMbbl**
- **Pearl Prospect best case Prospective Resources increased 21% to 149 MMbbl from 123 MMbbl**

Empyrean Energy (EME: AIM), the oil and gas development company with interests in China, Indonesia and the United States, is pleased to announce that comprehensive processing and interpretation of the 608km<sup>2</sup> of new 3D seismic data that it successfully acquired on its offshore China Block 29/11, for which it holds 100% exploration rights, during 2017 and announced on 23 August 2017 has now been completed. The analysis has firmed up key prospects which were

initially identified by the vintage regional 2D seismic survey and were mapped on the partially available (seismic Survey Boat Raw) 3D in September 2017.

Based on the results of the comprehensive processing and interpretation of the final 3D data, the prospective (un-risked) resources of the three major high graded prospects have been revised (Table 1). The revised estimates are higher than previously reported estimates because of detailed mapping and improved assessment of reservoir parameters. Gross (100%) 'Best' case Prospective Resources combined are estimated at 774 million barrels of oil ("MMbbl") on an un-risked basis.

**Empyrean CEO Tom Kelly commented,** "It is pleasing to report continued strong progress with our China asset and we are delighted with the significant increase to the prospective resources. Our in-depth work has confirmed the Jade and Topaz prospects as both being highly material opportunities with best estimate Prospective (un-risked) Resources of 625 MMbbl, along with a third exciting opportunity at the Pearl prospect. Driven by quality 3D data and known analogues these prospects will be targeting reservoir intervals proven by AMACO and CNOOC discoveries immediately north and west of Block 29/11. Put simply, the potential size of the prize in China just got materially bigger.

"Together with high impact activity taking place elsewhere across our portfolio, specifically first cash flow from the commencement of commercial gas production at the Dempsey 1-15 well in the Sacramento Basin, onshore California in which we have a 30% interest, this is an exciting time for Empyrean. With this in mind, we look forward to updating our shareholders in due course on further progress."

Table 1:

<b>Block 29/11 China: Gross Prospective (un-risked) Resources MMbbl*</b>						
<b>Timeline</b>	<b>September 2017</b>			<b>June 2018</b>		
	<b>(Seismic Boat Raw 3D data)</b>			<b>(Final Processed 3D data)</b>		
<b>Prospect</b>	<b>Low Case</b>	<b>Best Case</b>	<b>High Case</b>	<b>Low Case</b>	<b>Best Case</b>	<b>High Case</b>
<b>Jade</b>	89	103	143	94	190	303
<b>Topaz</b>	280	365	498	292	435	728
<b>Pearl</b>	84	123	206	94	149	256

Following the successful acquisition of a large 3D survey with no Health, Safety and Environmental (HSE) issues in August 2017, Empyrean has focused on processing the seismic data optimally. Empyrean has had regular interaction with the China Offshore Oil Services Limited (COSL) processing team at all stages of the project. Time (PSTM) and Depth (PSDM) processing of the 3D seismic data was completed in January 2018. The final processed data is of high-quality that has clearly imaged the potential reservoirs, faults and deeper basin.

Interpretation of the processed data commenced immediately following the completion of processing using both internal technical capability provided by experienced Geoscientist Gaz Bisht and an additional expert consultant Geophysicist that Empyrean contracted specifically for the task. These works have recently been completed.

Arising from the 3D seismic interpretation, the Jade and Topaz prospects have developed into better defined and very substantial opportunities. The Pearl Prospect, which was a substantial lead based on the vintage regional 2D seismic has evolved into a substantial prospect following the 3D. The results indicate that all three prospects are large and are in favourable geological settings.

Given, one of the major challenges with resource estimation rests heavily with an estimation of Gross Rock Volume (GRV), a critical step to reducing the uncertainty of estimating GRV is to better understand and quantify velocity field and depth conversion. As a result, two approaches were taken for depth 'conversion of time' interpretation of the seismic marker for the potential reservoir top. The resulting two GRVs from two structure maps were then combined to generate an industry standard probabilistic result using Monte Carlo simulation with 1,000 trials (using Crystal Ball software). This probabilistic method has produced Gross Prospective (un-risked) Resources as shown below (Table II).

Table 2:

<b>Block 29/11 China: Gross Prospective (un-risked) Resources MMbbl</b>				
<b>Probabilistic Estimates</b>				
<b>Prospect</b>	<b>P90</b>	<b>P50</b>	<b>P10</b>	<b>Mean</b>
<b>Jade</b>	110	183	230	202
<b>Topaz</b>	298	431	631	453
<b>Pearl</b>	105	152	220	159

In addition, Empyrean has made significant progress on an "Oil Migration study" to identify and map effective migration of hydrocarbons to the prospects from the proven "Baiyun Sag" hydrocarbon kitchen. China National Offshore Oil Corporation ("CNOOC") (Shenzhen branch) has been highly supportive and cooperative during this study. CNOOC technical team shared data and analysis with Empyrean freely and contributed enormously in developing a basin-wide understanding of hydrocarbon source rock, maturity and migration pathways.

Empyrean will make a further update with regards to the Oil Migration study as soon as it is completed in the near future.

*Cautionary Statement: The estimated quantities of oil that may potentially be recovered by the application of a future development project relates 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 movable hydrocarbons.*

**\*\*ENDS\*\***

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The information contained in this announcement was completed and reviewed by the Company's Executive Director (Technical) , Mr Gajendra (Gaz) Bisht, who has over 28 years' experience as a petroleum geoscientist.

**Notes to Editors**

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**About Empyrean Energy Plc (LON: EME)**

Empyrean is a London AIM listed oil and gas explorer with three potentially high impact new projects. Empyrean has a 1800km<sup>2</sup> offshore oil permit located in the Pearl River Mouth Basin, China where it has completed 3D seismic in Q3, 2017 to further mature two large oil prospects, Jade and Topaz. Processing and interpretation is underway and preliminary internal interpretation of the raw seismic data has confirmed the structural validity of the Jade and Topaz prospects and also identified a third significant target named Pearl, which is located north of Topaz. The permit is directly South East of the billion barrel+ Lihua Oil Field operated by CNOOC and two recent discoveries to the permits West and South further enhance the merit of Jade and Topaz. Empyrean is operator and holds 100% of the exploration rights through to commercial discovery where CNOOC have a back-in right to 51%.

Empyrean also has a 10% interest in West Natuna Exploration Limited that holds 100% of the Duyung PSC in offshore Indonesia and is targeting the Mako Shallow Gas Discovery that has an independently verified 2C and 3C gas resource of between 430-650 Bcf recoverable gas. Successful testing operations were recently completed at the Mako South-1 Well with 10.9 million cubic feet of gas flow and better than expected reservoir quality and multi Darcy permeability. The operator is currently analysing data with a view to providing a development plan.

Empyrean also has a joint venture with ASX listed Sacgasco Limited on a suite of projects in the Sacramento Basin, onshore California, USA. The package includes two mature, multi-Tcf gas prospects, 'Dempsey' and 'Alvares', and an Area of Mutual Interest (the "Dempsey Trend AMI") that includes at least three already identified, large Dempsey-style follow up prospects. Dempsey is a large structure mapped with 3D seismic and interpreted by Sacgasco to have the potential to hold a prospective resource of over 1 Tcf of gas in up to seven stacked target reservoirs. The joint venture has completed drilling of a 2,970 metre (9,747 feet) combined appraisal and exploration well; Dempsey 1-15, to evaluate this prospect. Wireline logs confirmed numerous zones for production testing.

Aside from compelling technical merit, the Dempsey-1 well location sits next to existing gas metering and surface infrastructure that is owned by the joint venture. This will allow for any gas discovery to be tested and connected into the local pipeline at relatively low cost and in an accelerated timeframe. This early potential for short-term cash flow in the event of a commercial discovery would be significant for the joint venture and for the state of California where gas demand is high and approximately 90% of consumption is imported from other

states. Gas produced in the Sacramento Basin currently prices at a 10-15% premium to Henry Hub Gas Prices. The joint venture is currently testing the Dempsey Prospect.

Alvares is a large structure mapped with 2D seismic and interpreted by Sacgasco to hold prospective resources of over 2 Tcf estimated potential recoverable gas. A well drilled by American Hunter Exploration Limited in 1982 for deeper oil intersected 5,000ft of gas shows. No valid flow test was conducted due to equipment limitations and the deeper oil target failing. However minor gas flows to surface were recorded even with these limitations. The possibility of using the existing well bore to sidetrack and get a valid flow test, thus reducing costs will be examined.

The Dempsey Trend AMI is an Area of Mutual Interest extending to approximately 250,000 acres and containing the Dempsey prospect (described above) as well as at least three other, Dempsey-style prospects which have been identified on existing seismic.

[www.empyreanenergy.com](http://www.empyreanenergy.com)

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