



**EMPEROR ENERGY**  
LIMITED

ASX Market Announcements  
ASX Limited  
20 Bridge Street  
Sydney NSW 2000

8 April 2021

## **Emperor Energy purchases recently acquired Judith Gas Field 3D Seismic Data from Global Seismic Company CGG**

### **Key Points**

- **Emperor Energy (EMP) has purchased a license to newly acquired 3D Seismic Data covering the Judith Gas Field from global seismic company CGG.**
- **Emperor Energy's consulting Geologists and Geophysicists have commenced Interpretation and Analysis of the new data.**
- **The new seismic data is shown to provide a major improvement in definition of seismic imagery with the potential to significantly de-risk the Greater Judith Structure for appraisal and exploration drilling.**
- **Amplitude response (a key hydrocarbon indicator) is shown to extend up-dip from the Judith-1 well into the Greater Judith Structure.**
- **Amplitude response in interpreted Kipper Gas Sands is also seen on the new seismic to extend into the Vic/P47 Exploration Permit owned 100% by Emperor Energy.**
- **Detailed interpretation and analysis of the Seismic Data will continue throughout April 2021.**

### **1. New Seismic Data purchased - Interpretation and analysis commenced.**

Emperor Energy is pleased to advise that it has completed a commercial agreement with global seismic company CGG for the purchase of a license to access newly acquired 3D seismic data covering the Judith Gas Field and Greater Judith Structure. (Figure 1)

This new seismic data was acquired by CGG during 2020 as part of a multi-client 3D Seismic Survey that covered much of the Offshore Gippsland Basin including the Judith Gas Field. Seismic acquisition was carried out using state-of-the-art equipment and techniques incorporating 7000 m long acquisition cables to generate the highest quality reservoir resolution seen so far in the Gippsland Basin.

Preliminary processed 3D data which includes a MAZ merge with CGG's previous legacy reprocessed data has been received by EMP with final processed data expected to be delivered by CGG later in 2021.



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Initial examination of the new data by EMP's consulting Geologists and Geophysicists confirms a major improvement in seismic data quality compared to previous seismic imagery providing high definition across the Judith Gas Field and much of the Greater Judith Structure. Some further improvement in data quality is expected in the final processed data volume.

High seismic amplitude (low impedance) response is used as a potential indicator of gas. Seismic sections across the Judith Gas Field indicate that high amplitude/low impedance responses are well developed in the sections correlating with the the Judith gas sands intersected in the Judith-1 well, and also in the interpreted underlying Longtom reservoirs, and can be seen extending significantly up-dip into the Greater Judith Structure from the original Judith-1 gas discovery drilled in 1989 by Shell. (Figure 2).

The improved seismic data quality in the new seismic volume will allow Amplitude Versus Offset (AVO) modelling to be employed as a Direct Hydrocarbon Indicator (DHI) in these reservoir sands across the Greater Judith Structure.

Initial examination of the new seismic also shows the presence of high amplitude responses indicative of the possible presence of gas in interpreted Kipper Gas Sands extending from the currently producing Kipper Gas Field (operated by Exxon Mobil) into the southeastern corner of Vic/P47. The possible extension of the Kipper Gas Field into Vic/P47 will be assessed by future work.

Emperor Energy's consulting Geologists and Geophysicists will continue with detailed interpretation and analysis of the seismic data throughout April and into early May. This will include redefinition of fault blocks and gas sand horizon continuity within each block, seismic correlation against the Kipper 1 and South East Longtom 1 wells along with AVO analysis to highlight potential gas reservoirs.

## 2. Management Comment

**Emperor Energy Director Phil McNamara said:** "The proximity of the Judith Gas field to the Rosedale Fault in the North had previously affected seismic data quality as you get closer to the fault resulting in poor seismic response as you progress up-dip from the Judith-1 gas discovery. The new MC3D seismic data volume, including MAZ merge with earlier CGG legacy reprocessing, provides a major improvement in seismic definition and continuity and to a large extent overcomes this problem.

EMP has completed a project pre-feasibility study based on four production wells achieving 80 Million Standard Cubic Feet per day field production over 25 years. We now have the seismic data and tools required to accurately refine the preferred locations of these wells and what the expected total gas production could be from each.

Emperor has a very qualified team of Geologists and Geophysicists working on interpretation and analysis of the data. By mid May 2021 we will have a clearer picture of Hydrocarbon Indicators across the gas field and consider that this will greatly enhance our prospects of securing an Exploration Partner to participate in the drilling of the Judith-2 Well. This should also provide Emperor with the confidence required to commence progressing with early-stage Government approval work identified as part of the overall Project Feasibility Study.



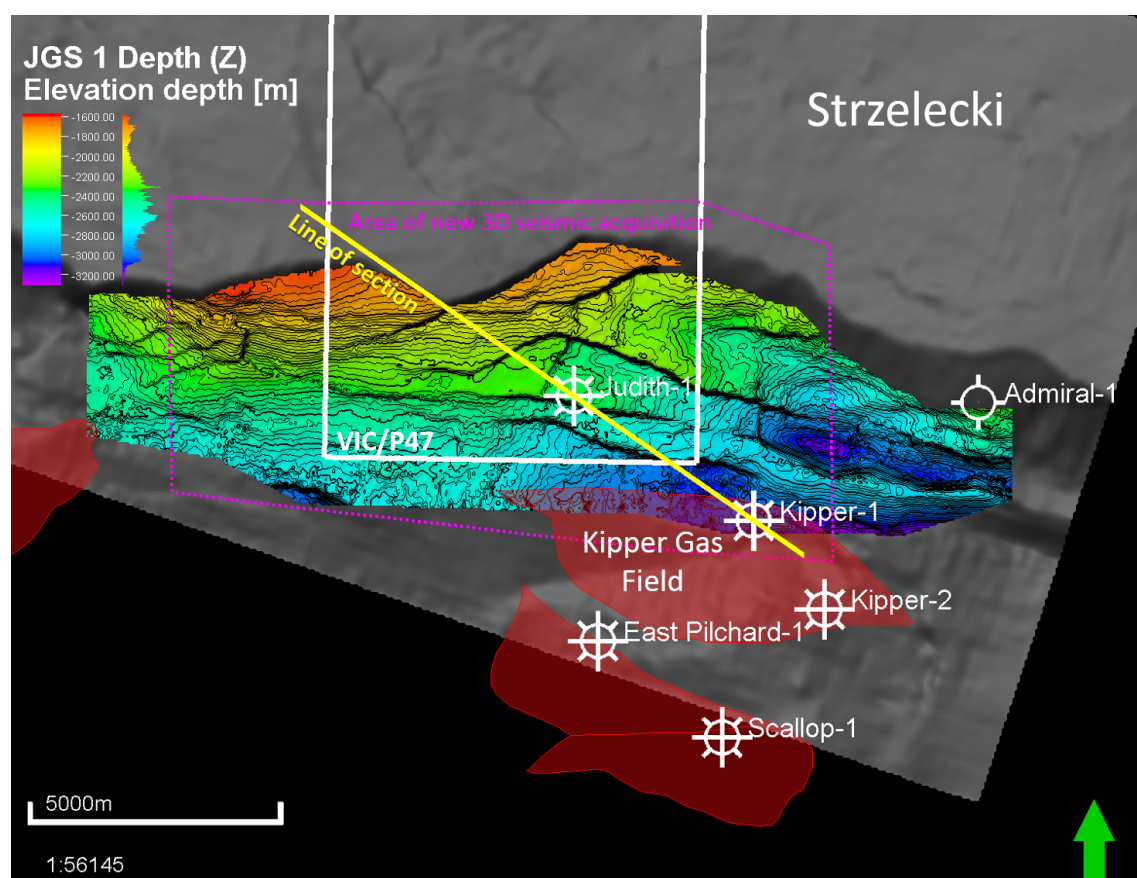
### 3. Commercial Arrangements for purchase of Seismic License

Emperor Energy and CGG have completed a binding commercial agreement for the sale and purchase of a license to access the seismic data.

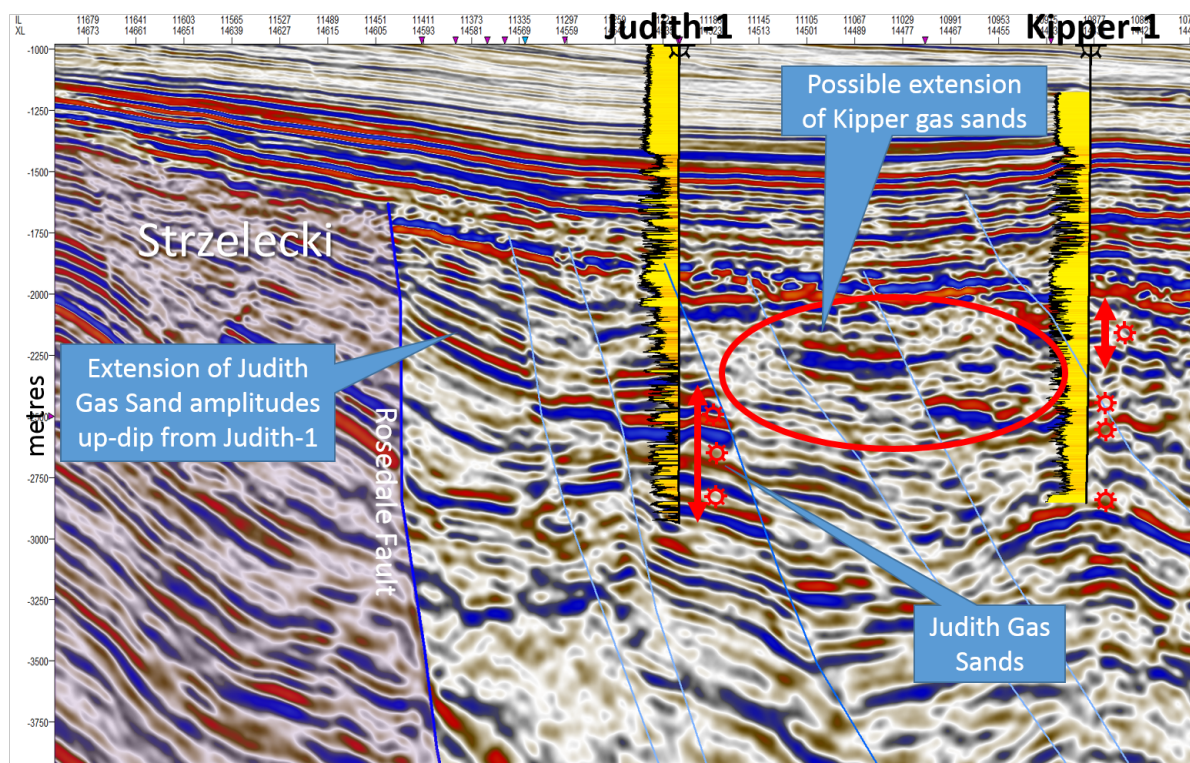
The license provides Emperor Energy with access to Survey Data over and around the Judith Gas Field comprising 37km<sup>2</sup> within Exploration Permit Vic/P47 as well as further areas outside of Vic/P47 to the west, south and east that are required to fully define the Greater Judith structure. (Figure 1).

The cost of the license to Emperor Energy is a total of AUD \$732,180.90 and will be payable via staged payments across a period of 12 months commencing in April 2021. These favourable payment terms have been factored into EMP's cashflow and capital commitment schedule for the next 12 months.

The purchase of the Seismic License also fulfills a key condition of the approval granted on 23 December 2020 by the National Offshore Petroleum Titles Authority (NOPTA) for the "Variation and Suspension of Work Program and Extension of Permit Term: Petroleum Exploration Permit Vic/P47". This approval extended the required timeframe to drill the Judith-2 Exploration Well to 22 August 2023.



**Figure 1: Map showing Vic/P47 Exploration Permit boundary (White line), EMP licensed area of new seismic acquisition (Purple line) and Line of Seismic Section (Yellow line) shown in Figure 2**



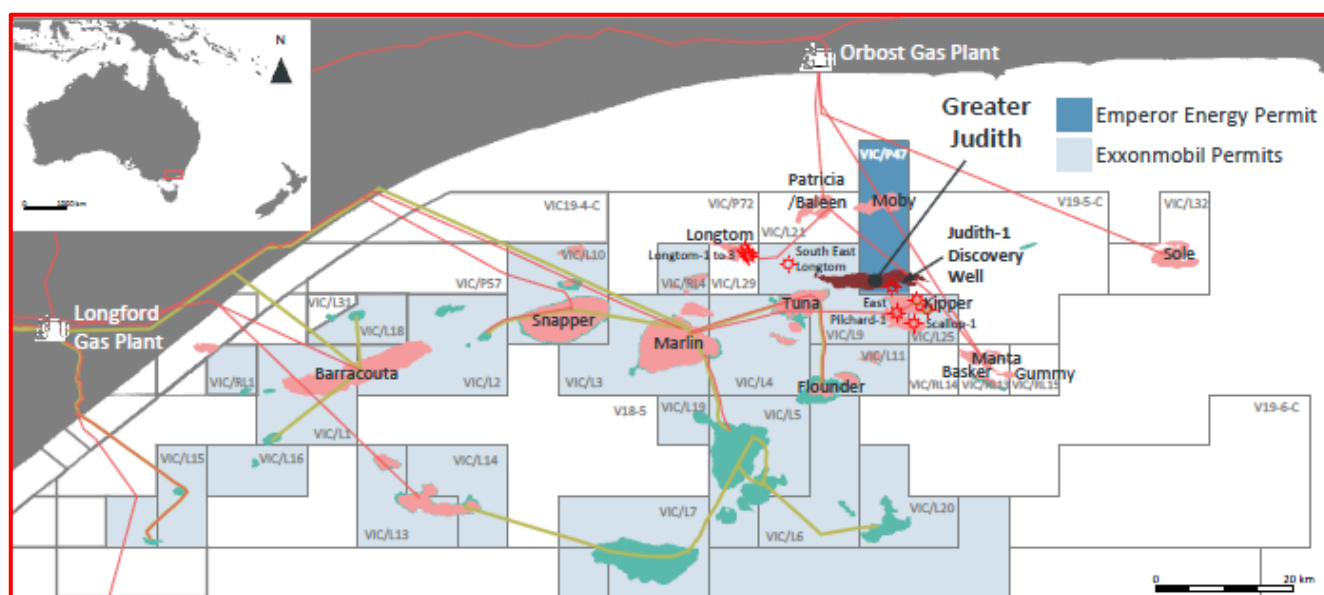
**Figure 2: Seismic cross section showing amplitude in Judith Gas Sands at Judith-1 Well, Extension of Judith Gas Sand amplitudes up-dip from Judith and possible extension of Kipper Gas Sands. (Seismic image generated under license with CGG)**

#### **4. About the Judith Gas Field**

The 100% Emperor Energy owned Judith Gas Field is located within the Vic/P47 Permit in the offshore Gippsland Basin, Victoria.

On 11 July 2019 Emperor Energy advised that an Independent Resource Statement had been completed for the Judith Gas Field within the 100% Emperor Energy owned Vic/P47 Exploration Permit located in the offshore Gippsland Basin, Victoria (Figure 3). The Resource Statement Highlighted:

- **2C Contingent Gas Resource of 150 Bcf**
- **P50 Unrisked Prospective Gas Resource of 1.226 Tcf**



**Figure 3: Location of 100% Emperor Energy owned Vic/P47 offshore Gippsland Basin showing regional permits along with oil and gas fields**

Judith Gas Discovery		Contingent Resources		
		Low Estimate 1C	Best Estimate 2C	High Estimate 3C
GIIP	Bcf	180	278	386
Sales gas	Bcf	97	150	209
Condensate	MMbbl	1.4	2.2	3.2

**Table 1: Summary of Contingent Resources for Judith within area of Vic/P47 (3D-GEO, July 2019, Determined by Probabilistic Method)**

Greater Judith Area		Unrisked Prospective Resources		
		P90	P50	P10
Judith Deep	Bcf	38	62	92
West	Bcf	83	127	176
Central	Bcf	37	333	628
North	Bcf	29	166	315
North East	Bcf	49	279	494
North West	Bcf	15	102	226
South	Bcf	14	157	565
<b>Total</b>	<b>Bcf</b>	<b>265</b>	<b>1226</b>	<b>2496</b>

**Table 2: Summary of Prospective Resources for Judith within area of Vic/P47 (3D-GEO, July 2019)**



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This announcement has been authorised for release to the market by the Board of Directors of Emperor Energy Limited

Yours faithfully

**Carl Dumbrell**

**Company Secretary**

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### **Capital Structure**

The company currently has issued capital (as of 8 April 2021) of:

Ordinary fully paid shares	(ASX: EMP)	<b>140,392,946</b>
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