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EMPEROR ENERGY
LIMITED

13th October 2022

ASX Market Announcements
Australian Stock Exchange Limited
20 Bridge Street
Sydney NSW 2000

Independent Resource Statement – Vic/P47 Permit, Judith Gas Field

Contingent Gas Resource increases by 48 Bcf to 198 Bcf

P50 Prospective Gas Resource increases by 401 Bcf to 2.249 Tcf

Highlights

- **Integration with engineering data from analogue Longtom and Kipper Gas Fields resulted in improved Gas Saturation and Recovery Factor inputs to Resource Estimation**
- **Judith Block 2C Contingent Gas Resource increased from 150 Bcf to 198 Bcf**
- **P50 Un-risked Prospective Gas Resource in the Judith and Longtom sands within the Judith Gas Field increased from 1.226 Tcf to 1.627 Tcf**
- **P50 Un-risked Prospective Gas Resource in the overlying Kipper and Golden Beach sandstones as previously assessed at 622 Bcf (tied-back to the adjacent Kipper Gas Field)**
- **Total P50 Un-risked Prospective Gas Resource within Emperor Energy's 100% owned Vic/P47 permit increases by 410 Bcf to 2.249 Tcf**
- **AVO supported bright gas indicators in the new CGG Seismic Survey data significantly increase the confidence of gas presence within the Greater Judith Gas Field**
- **Revised Resource Statement completed by 3D-GEO Pty Ltd, Melbourne**

1. Summary

The Directors of Emperor Energy Limited (Emperor) wish to advise that an Independent Resource Statement has been completed for the full Latrobe sequence (Golden Beach and Emperor Sub-groups) within the 100% Emperor Energy owned Vic/P47 Exploration Permit located in the offshore Gippsland Basin, Victoria (Figure 1).

Independent geological consultants 3D-GEO Pty Ltd have previously (March 2022) assessed the gas-in-place and recoverable gas volumes in the Kipper and Golden Beach sands overlying the Judith-1 gas discovery, and now recently have revised the resource estimates within the Judith and Longtom sandstones within Vic/P47. This revision for the Judith and Longtom reservoir sands follows receipt of additional reservoir and development engineering data from the nearby Longtom and Kipper analogue gas fields and subsequent further interpretive analysis undertaken.

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3D-GEO has now completed its revised assessment of the Prospective Resources contained in the Judith and Longtom sands. The resources presented are 100% attributable to Vic/P47, of which Emperor Energy holds 100% equity.

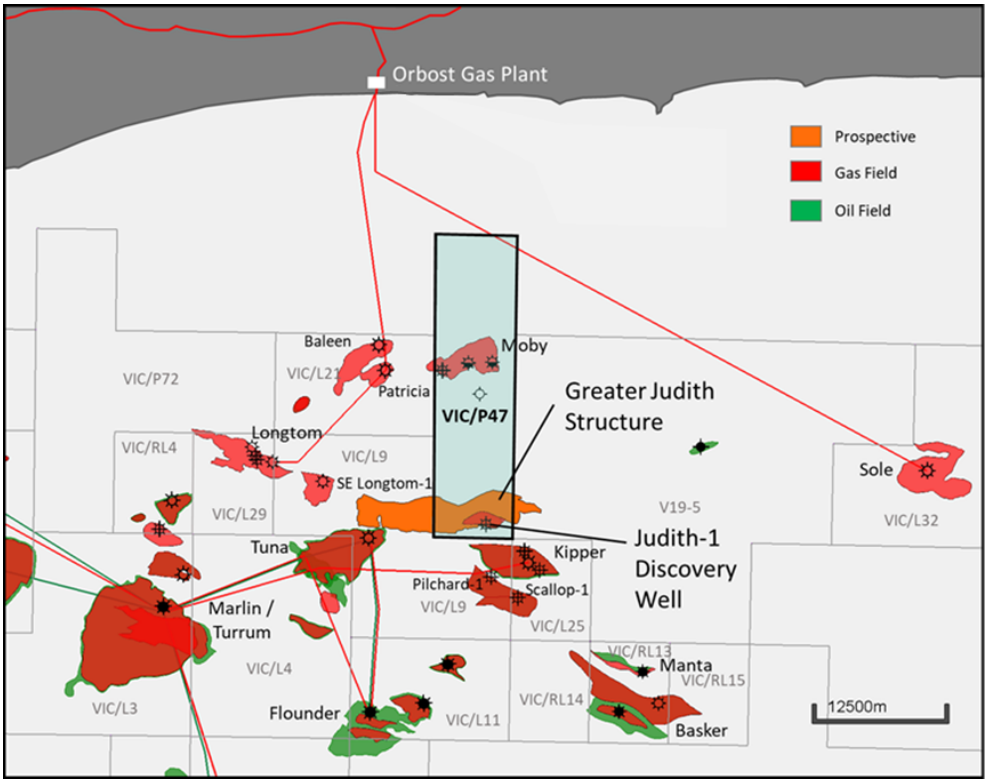

Figure 1: Location of 100% Emperor Energy owned Vic/P47 (offshore Gippsland Basin), showing Judith Gas Field, other regional permits along with nearby oil and gas fields

An Independent Technical Specialist's Report comprising the Judith and Longtom Sand revised Contingent and Prospective Resources was provided to Emperor Energy on 11 October 2022 by 3D-GEO Pty Ltd.

3D-GEO has apportioned resources in accordance with the Society of Petroleum Engineers' internationally recognised Petroleum Resources Management System (SPE-PRMS 2018). The results are provided in the Tables below.

Table 1.1: Summary of Contingent Resources for Judith area of VIC/P47 (3D-GEO, October 2022)

Judith Gas Discovery		Contingent Resources		
		Low 1C	Best 2C	High 3C
GIIP	Bcf	204	322	463
Sales gas	Bcf	118	198	297
Condensate	MMbbl	1.7	2.9	4.6

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Table 1.2: Summary of Prospect Prospective Resources for Judith area of VIC/P47 Judith and Longtom Sandstones (3D-GEO, October 2022)

Greater Judith Area		Unrisked Prospective Resources		
		P90	**P50**	**P10**
Judith Deep	Bcf	56	100	157
West	Bcf	102	166	244
Central	Bcf	46	430	859
North	Bcf	36	208	410
North East	Bcf	67	379	701
North West	Bcf	18	126	293
South	Bcf	21	218	788
Total	Bcf	**346**	**1627**	**3452**

Table 1.3: Summary of Lead Prospective Resources for Judith area of VIC/P47 Kipper and Golden Beach Sandstones (3D-GEO, March 2022)

Greater Judith Area		Unrisked Prospective Resources		
		P90	**P50**	**P10**
New Resource Statement				
Kipper Sand	Bcf	194	314	478
Upper Golden Beach Sandstone Sequence	Bcf	70	143	247
Lower Golden Beach Sandstone Sequence	Bcf	9	21	40
Golden Beach Basal Sand	Bcf	83	144	231
Total	**Bcf**	**356**	**622**	**996**

2. Background

Judith-1 was drilled and operated by Shell Company of Australia in 1989 and is contained within the Vic/P47 Permit held 100% by Emperor Energy and located on trend to the Longtom and South East Longtom analogue gas fields and within close proximity of the Esso operated Kipper Gas Field (Figure 2).

On 5 July 2019 after extensive technical evaluation studies, 3D-GEO provided Emperor Energy with a Resource Statement relating to the Judith and Longtom Gas Sands within the Judith Gas Field. The statement evaluated 7 separate reservoirs (4 Judith gas sands and 3 Longtom sands) within seven separate fault blocks (Figure 3). This statement assessed a P50 Unrisked Prospective Gas Resource of 1.226 Tcf along with a 150 Bcf Contingent Resource (probabilistic assessment) within the Vic/P47 Permit area.

On 30 December 2020 Emperor Energy announced that the National Offshore Petroleum Titles Regulator (NOPTA) has approved the Company's application to extend the primary term of the Vic/P47 Exploration Permit by a period of 30 months requiring the drilling of the Judith-2 Exploration/Appraisal Well by August 2023.

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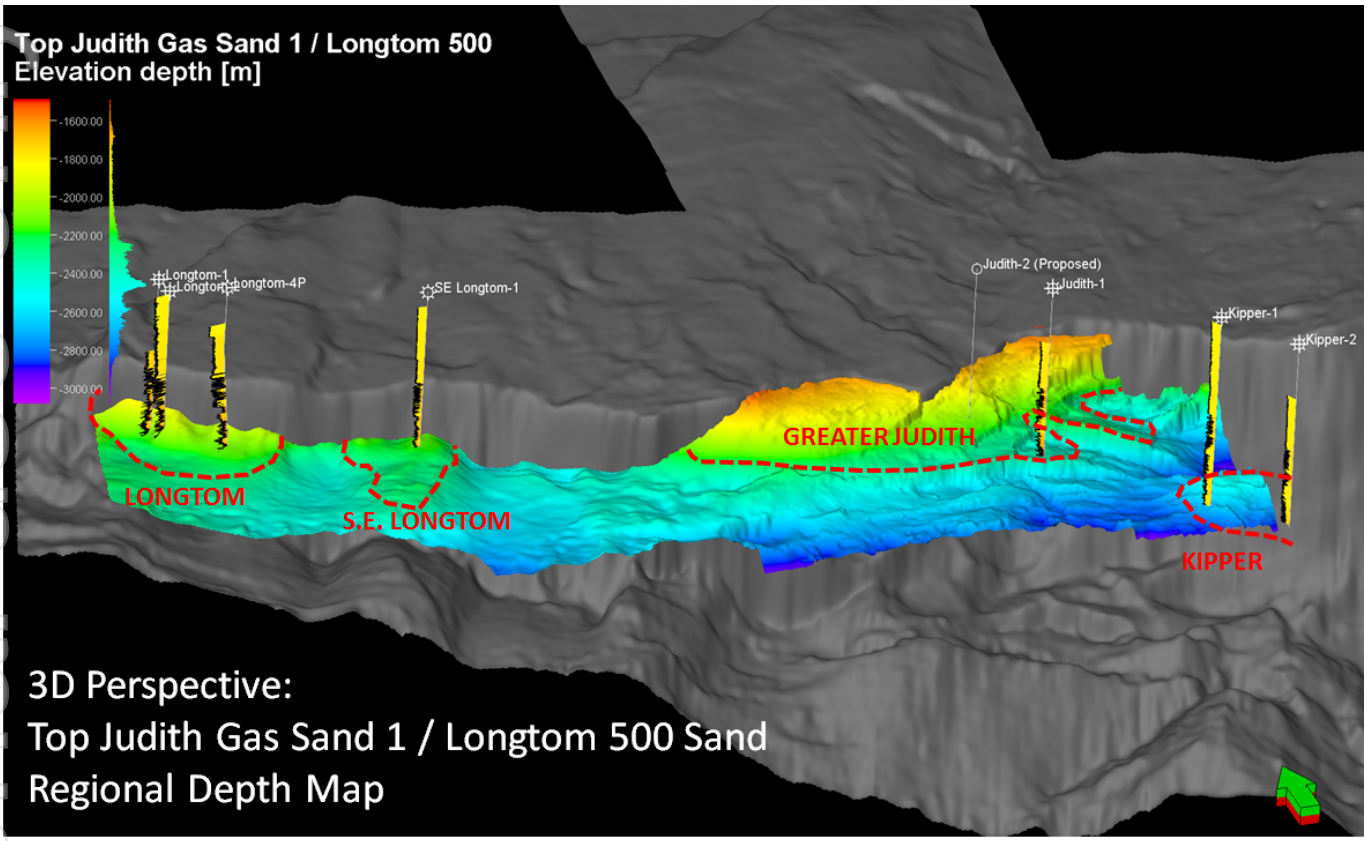

Figure 2: Regional Top Judith Gas Sand-1 Depth Map showing Analogue Fields

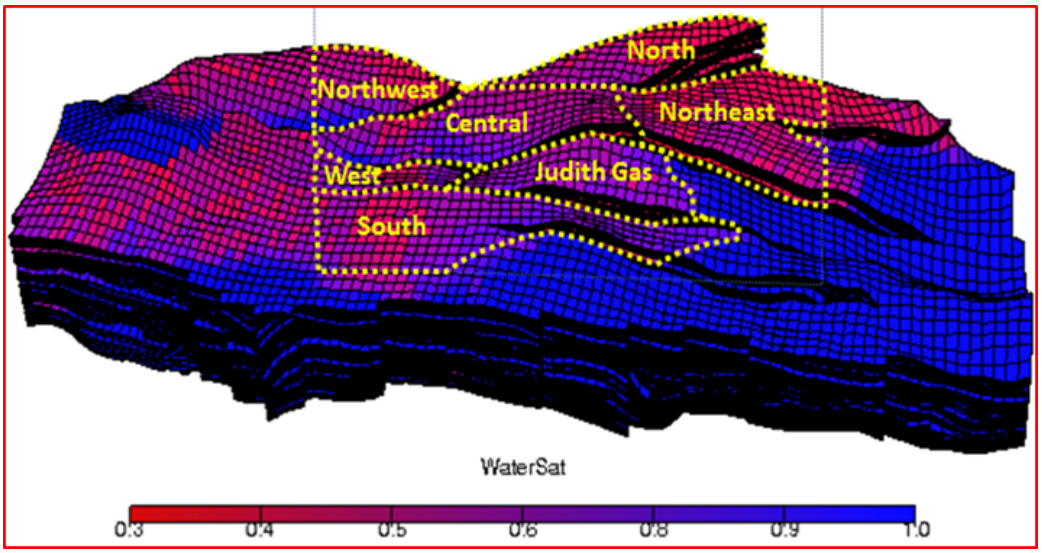

Figure 3: Greater Judith Fault Compartments on Dynamic Model Gas Saturations

During 2020, global seismic acquisition company CGG acquired a Multi-Client 3D seismic volume over a large portion of the Gippsland Basin, including the Judith Gas Field. Emperor Energy purchased a license to access part of this seismic volume and the final processed data covering the Judith and Kipper Gas Fields was made available to Emperor Energy in November 2021.

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Emperor Energy and 3D-GEO subsequently carried out extensive interpretation and modelling with the new seismic data (Figure 4). In March 2022, 3D-GEO provided Emperor Energy with a Resource Statement relating to the Kipper and Golden Beach Sandstones, tied back to the Kipper-1 gas discovery. This statement assessed a P50 Unrisked Prospective Gas Resource of 622 Bcf (probabilistic assessment) within the Vic/P47 Permit area.

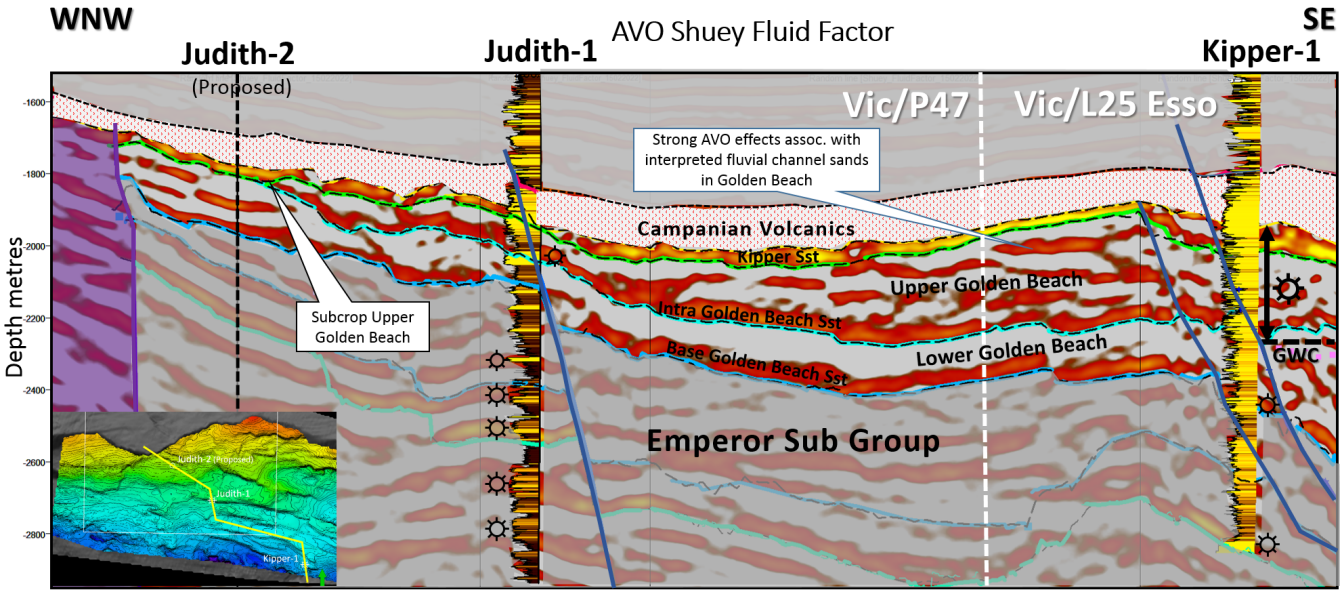

Figure 4: CGG seismic (AVO Shuey Fluid Factor) between Judith-1 and Kipper Gas Field

In early 2022, Emperor Energy accessed engineering data from the Longtom and Kipper Gas Fields which indicated that water production was very low and production rates were better than initially modelled. As a result, a review of the previous reservoir property modelling was initiated.

3. Revised 3D-GEO Resource Assessment

The review of the Judith prospective resources focused on:

- Integration of new engineering data from the Longtom and Kipper analogue gas fields
- Comparison of Judith-1 log suite and hole conditions to analogue wells with modern logs
- Petrophysical review of Judith Sands with washout/mud filtrate invasion in Judith-1
- Increase in Gas Saturations, based on mud invasion corrected deep resistivity curves
- Increase in Recovery Factors, based on analogue field data and increased gas saturations
- Revised Volumetric assessment of resources in the Judith and Longtom sands in Vic/P47

With review of the Kipper and Golden Beach sandstones early in 2022, Emperor gained access to senior personnel who had been involved in the Kipper Gas Field development. Subsequently Emperor accessed similar senior resources who had involvement in the Longtom Gas Field delineation and development. Discussions revealed that production rates were generally higher than initially modelled and that even with increased rates, and long-reach horizontal wells, there was minimal water influx into the producing wells. The high water saturations derived from initial petrophysics of the Judith-1 well did not align with this analogue well data.

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Expert Gippsland Basin petrophysics consultant Angela Cernovskis (previously Nexus, BHPP and Esso) conducted a comparison study between Judith-1 and the analogue wells. The focus was to look at log suite sophistication (logging tool vintage) and borehole conditions.

The drilling parameters recorded during Judith-1 well operations indicate the borehole drilled without any significant incidences. However, the wireline caliper logs show significant borehole washouts within the 8-1/2" borehole which adversely impacts mudcake development along the borehole wall and wireline tool responses.

Mudcake development along the borehole wall is essential as it provides a permeability barrier between drill fluids and the formation. Consequently, it is now considered that it is most likely that the wireline logging data quality has been degraded at Judith-1.

The previous petrophysical model input parameters were reassessed and examined in context with nearby offset wells where the data were collected from good borehole conditions and in similar geological settings.

A crossplot of interpreted porosity vs water saturation (Sw) was generated to review the regional correlation in known gas sand units (Figure 5 below). The dashed red box is the zone commonly interpreted as gas pay in the offshore Gippsland Basin when porosity is greater than 8% and water saturation is less than 70%. The Judith gas sands fit well within the regional trend as shown in Figure 5 indicating that calculated high-water saturations do not necessarily preclude gas productivity.

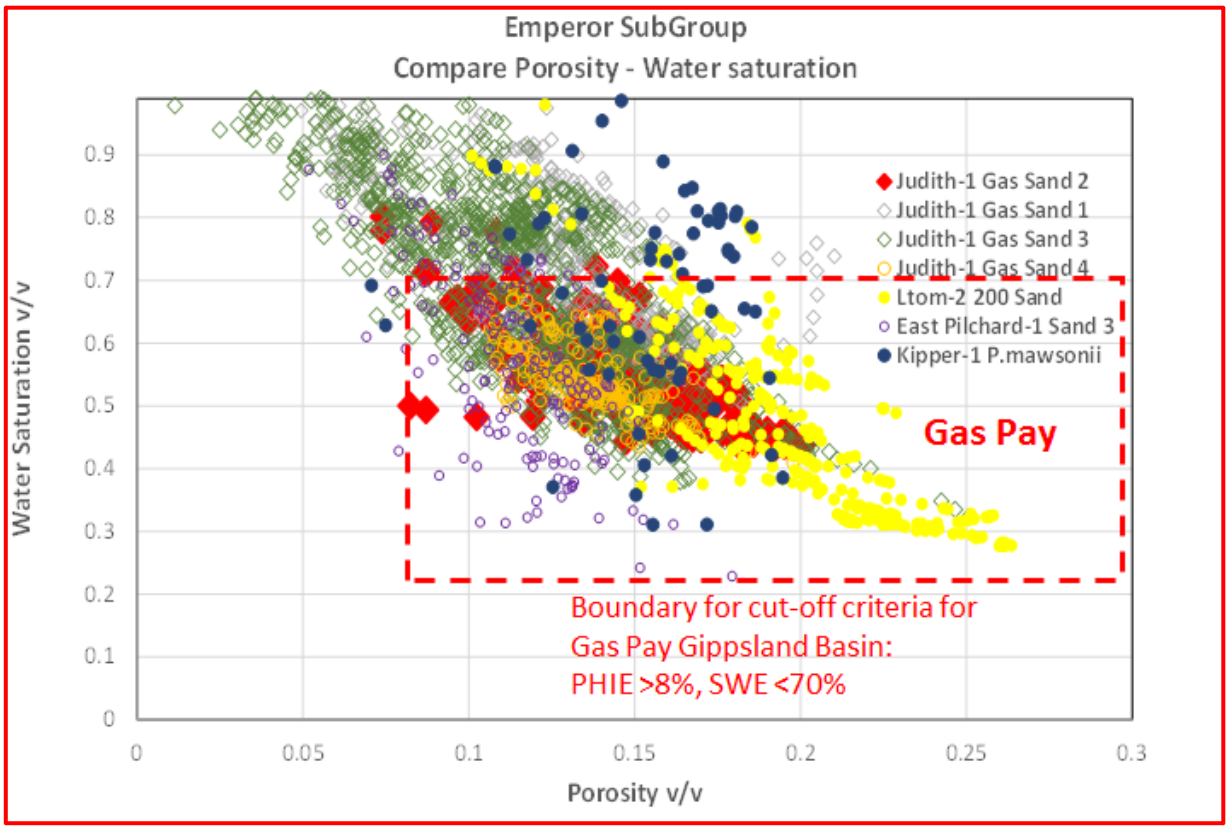

Figure 5: Regional Gas Sands Porosity vs Water Saturation

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In Judith-1 the caliper and resistivity logs indicated several zones within the gas reservoir units that were severely washed out i.e., where the caliper log readings are significantly greater than the 8-1/2" bit-size and the resistivity data shows little or no separation of the resistivity data (MSFL; LLS; LLD). However, all of the Judith sandstone intervals showed significantly elevated mud gas levels while drilling, indicating the presence of gas (see Figure 8 Composite Log).

As a result, a correction function was generated to reverse the washed-out borehole suppression of the Judith-1 LLD data and labelled RT_FN-4. The water saturation model was then updated by replacing the LLD with the RT_Fn4 log as shown in Figure 6 across Judith-1 Gas Sand 2 together with the uncorrected LLD curve.

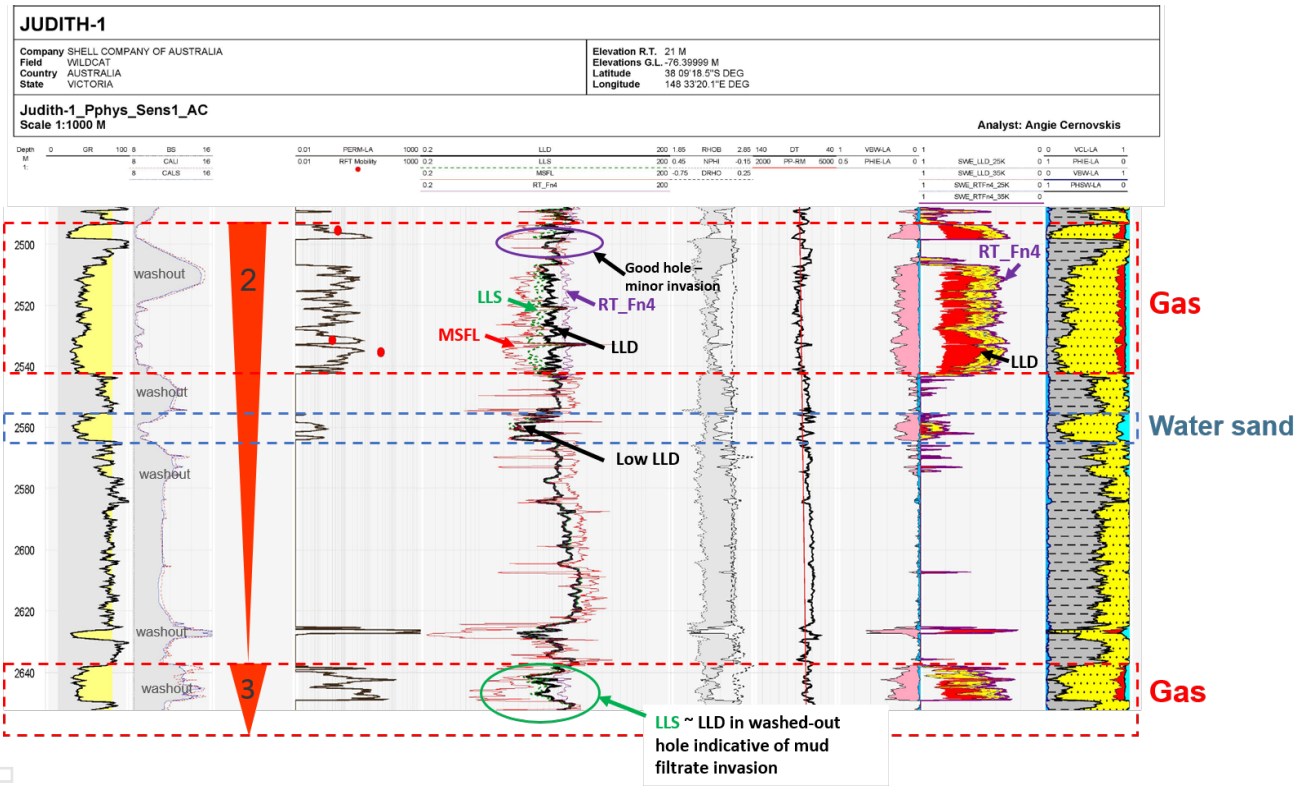

Figure 6: Judith-1 Petrophysics Composite Log for Gas Sand 2

Mud filtrate invasion is identified when the MSFL log (designed to give data from the formation close to the borehole wall) is equal to or greater than the LLS and LLD readings that are recorded from further into the formation away from the zones of mud filtrate invasion. Petrophysical uncertainty arises when the wireline logging environment is less than optimal.

In Figure 7 the Judith-1 LLD for Gas Sand-2 range from 5 to 15 ohmm (brown diamonds), with the revised RT-Fn4 ranges from 9 to 18 ohmm (red diamonds).

The planned Judith-2 appraisal well reservoir sands are prognosed to be intersected at shallower depths than at Judith-1, similar or shallower than Longtom-2, and are expected to have higher porosity and resistivity values within an in-gauge borehole.

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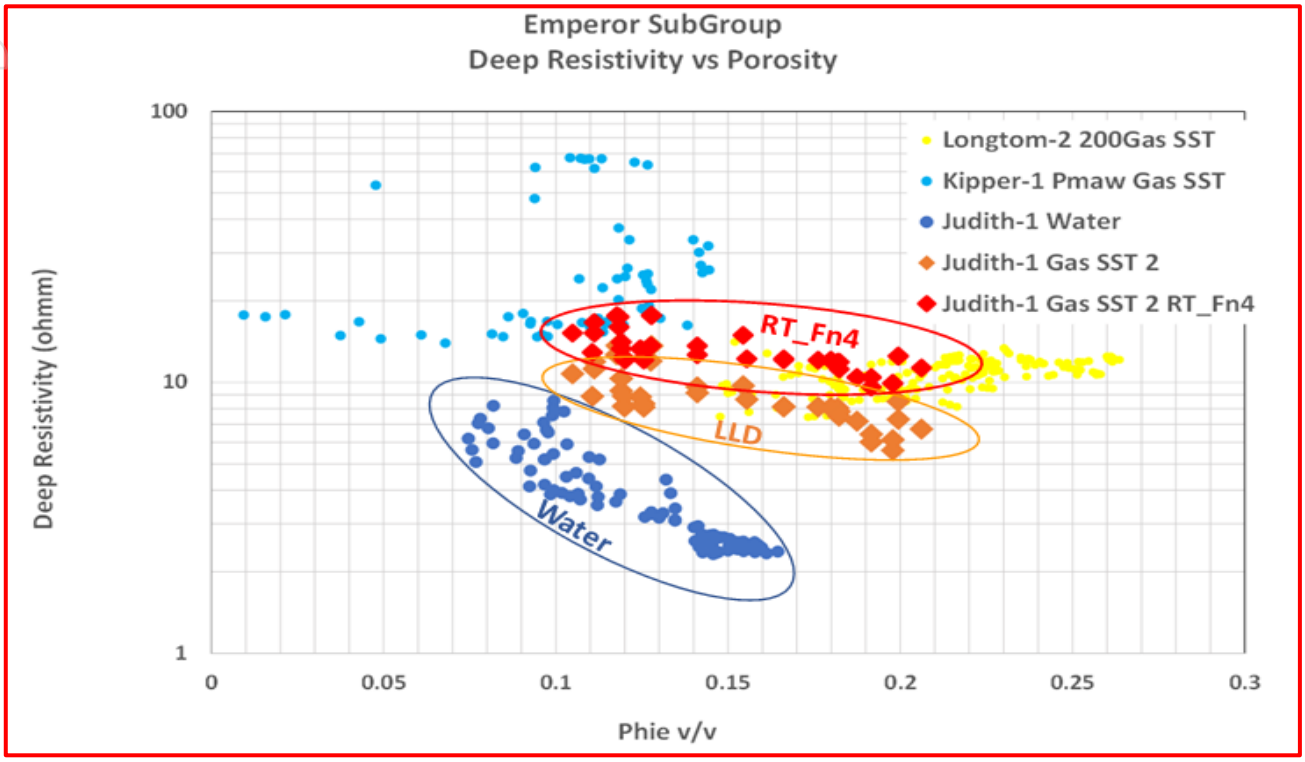

Figure 7: Deep Resistivity vs Porosity

Petrophysical uncertainty also arises when little or no salinity contrast exists between the mud filtrate (Rmf) and the formation water salinity (Rw). Across the Judith-1 interpreted water sand at 2560m the Rw 0.23 @ 25degC = 25kppm salinity. The reported Rmf was 0.23 @ 22degC = 27kppm salinity which is essentially the same as the interpreted salinity for the 2560m water sand. This issue then increases the uncertainty of selecting the Rw for use in the water saturation (Sw) equations.

In order to mitigate some of these adverse effects and reduce petrophysical uncertainty at Judith-1, the borehole conditions and resistivity data were reviewed in offset wells and nearby fields i.e., Longtom-1, Longtom-2, Longtom-4P, South East Longtom-1 and Kipper-1 where borehole integrity was good and petrophysical uncertainties were low.

It was also noted in the offset well review that the formation water salinity (Rw) was higher (35kppm salinity) across the gas zones than the 25kppm used in the Judith-1 2018 petrophysical model. In view of this the Rw was increased in the Judith-1 saturation equation to 35kppm from 25kppm.

Kipper-1 P. Mawsonii gas sand Rw = 40Kppm equivalent salinity
Longtom-1 200 gas sand Rw = 40kppm equivalent salinity
Longtom-2 gas sands Rw = 35kppm equivalent salinity
Southeast Longtom-1 Rw = 35kppm equivalent salinity

These moderate changes to the water saturation equation have resulted in increased gas saturations across the Judith-1 gas sand units as shown in Figure 8.

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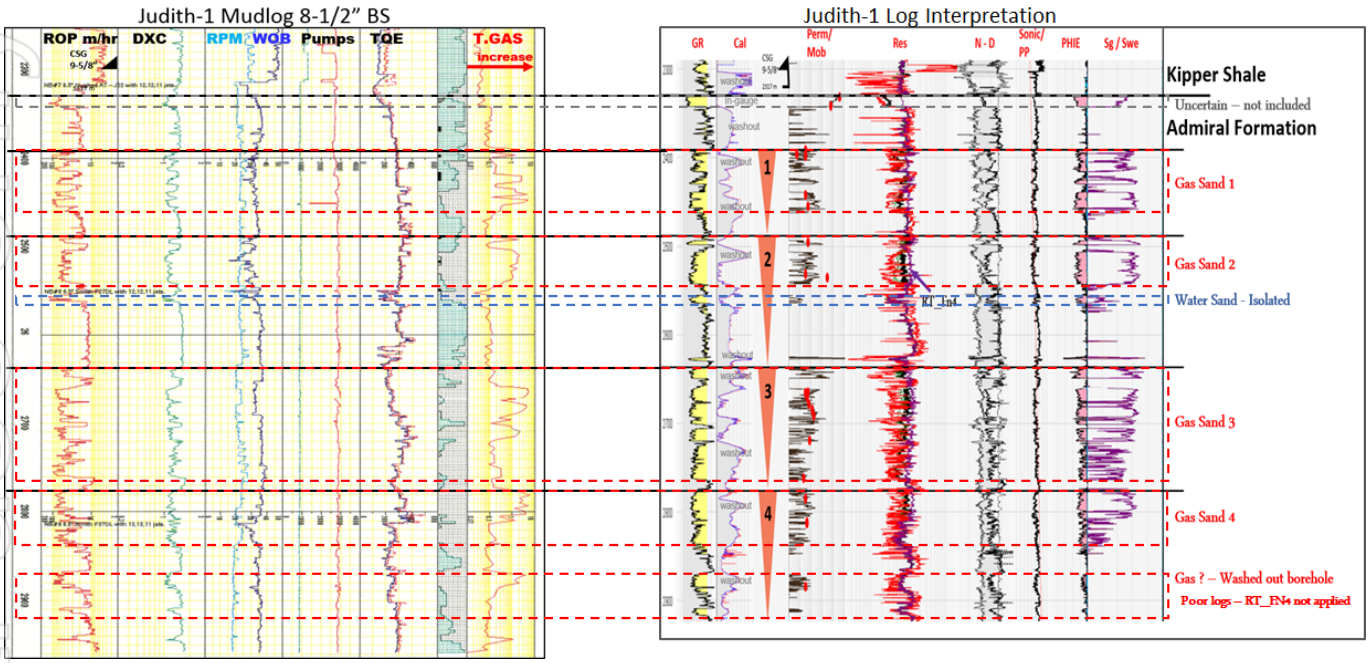

Figure 8: Judith-1 Revised Petrophysics Composite

In addition to the analogue driven increase in gas saturations, engineers previously working on the Longtom Field advised that productivity from the wells (prior to seafloor mechanical issues) was substantially higher than had been predicted by the simulation modelling. Combined with the permeability date from Kipper-1, it is quite likely that permeability in the Judith-1 gas sands has been underestimated in the modelling.

Information from the nearby Kipper Field informs that the Kipper field's gas sand Recovery Factor estimate is 80%, with a gas expansion drive mechanism rather than an aquifer drive mechanism. Although the Kipper sands do have higher average porosity than the Judith-1 sands, the 55% gas Recovery Factor utilized in the previous Judith modelling is too pessimistic (based on the Longtom and Kipper data) and has been upgraded to 63%.

Judith Contingent Resources

The Judith Contingent Resources are defined by the Judith-1 well penetration. There are four gas sands penetrated, with separate gas accumulations. There are no clear Gas/Water contacts (GWC), only "gas down to" and some "water up to" interpretations on the well log data.

Therefore 3D-GEO has used a narrow range of plus 25m (P10) and minus 25m (P90) around the most likely interpreted GWC. These contact levels then define the Gross Rock Volumes used to derive the 1C, 2C and 3C volume estimates.

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3D-GEO has modelled the Judith contingent resources to extend throughout the Judith compartment, and 1C, 2C and 3C resources are estimated using a probabilistic assessment with a small range on input parameters, such as GWC, Gross Rock Value, net to gross ratio, porosity and gas saturation. The input parameters have remained the same as the 3D-GEO 2019 resource estimation, other than an increase of 5 to 15% in gas saturations and increasing gas recovery by 8% in the P50 case and 15% in the P10 case. The revised Contingent Resources identified in the Judith Gas compartment are provided in Table 1.1

Judith Prospective Resources

Similarly, 3D GEO utilized the 2019 resource estimation for the reservoir parameter inputs to the probabilistic assessment for each of the prospective compartments. Gross Rock Volume, which has the greatest effect on resource volumes, was derived by using a range of gas column heights in each compartment; 150m (P90), 450m (P50) and 750m (P10). Only the Gas Saturation and the Recovery Factor were altered based on the review of the petrophysics and engineering data from the analogue gas fields. The Prospective Resources identified on the Greater Judith Structure within VIC/P47 are provided in Table 1.2. The cumulative P50 Prospective Resource for the Judith and Longtom sandstones is estimated as **1.627 Tcf,** an increase of 401 Bcf (33%) above the 2019 resource estimate.

In addition, the March 2022 Resource Estimate for the overlying Kipper and Golden Beach sandstones (tied to the Kipper-1 gas discovery, identified a further P50 Prospective Resource of 622 Bcf (Table 1.3)

4. Competent Persons Statement

Consents

The Resources information in this ASX release is based on, and fairly represents, data and supporting documentation supplied in an Independent Technical Specialist's Report (ITSR) prepared by 3D-GEO Pty Ltd. The preparation of this report has been managed by Mr Keven Asquith who is Chairman and Director of 3D-GEO Pty Ltd.

Mr Asquith holds an Honours BSc. Geological Sciences – University of Western Ontario, Canada, 1978, and a Diploma in Project Management from the University of New England, Australia - 2000. Mr Asquith has over 35 years' experience in the sector and is a long-time member of the American Association of Petroleum Geologists (AAPG).

Mr Asquith is a qualified Petroleum Reserves and Resources Evaluator as defined by ASX listing rules. The Resources information in this ASX announcement was issued with the prior written consent of Mr Asquith in the form and context in which it appears.

3D-GEO Pty Ltd is an independent oil and gas consultancy firm. All the 3D-GEO staff engaged in this assignment are professionally qualified engineers, geoscientists or analysts, each with many years of relevant experience and most have in excess of 25 years of industry experience.

3D-GEO was founded in 2001 to provide geotechnical evaluations to companies associated with the oil and gas industry. 3D-GEO services domestic and international clients with offices in Melbourne and Madrid.

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Reserves and resources are reported in accordance with the definitions of reserves, contingent resources and prospective resources and guidelines set out in the Petroleum Resources Management System (PRMS) approved by the Board of the Society of Petroleum Engineers in 2018.

The Independent Technical Specialist's Report (ITSR) has been prepared in accordance with the Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports 2005 Edition ("The VALMIN Code") as well as the Australian Securities and Investment Commission (ASIC) Regulatory Guides 111 and 112.

SPE-PRMS Society of Petroleum Engineer's Petroleum Resource Management System - Petroleum resources are the estimated quantities of hydrocarbons naturally occurring on or within the Earth's crust. Resource assessments estimate total quantities in known and yet-to-be discovered accumulations, resources evaluations are focused on those quantities that can potentially be recovered and marketed by commercial projects. A petroleum resources management system provides a consistent approach to estimating petroleum quantities, evaluating development projects, and presenting results within a comprehensive classification framework. PRMS provides guidelines for the evaluation and reporting of petroleum reserves and resources.

Under PRMS "**Reserves**" are those quantities of petroleum which are anticipated to be commercially recoverable from known accumulations from a given date forward. All reserve estimates involve some degree of uncertainty. The uncertainty depends chiefly on the amount of reliable geologic and engineering data available at the time of the estimate and the interpretation of these data. The relative degree of uncertainty may be conveyed by placing reserves into one of two principal classifications, either proved or unproved. Unproved reserves are less certain to be recovered than proved reserves and may be further sub-classified as probable and possible reserves to denote progressively increasing uncertainty in their recoverability.

"**Contingent Resources**" are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations, but the applied project(s) are not yet considered mature enough for commercial development due to one or more contingencies. Contingent Resources may include, for example, projects for which there are currently no viable markets, or where commercial recovery is dependent on technology under development or gaining access to existing infrastructure or where evaluation of the accumulation is insufficient to clearly assess commerciality.

Contingent Resources are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by their economic status.

"**Prospective Resources**" are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective Resources have both a chance of discovery and a chance of development. Prospective Resources are further subdivided in accordance with the level of certainty associated with recoverable estimates assuming their discovery and development and may be sub-classified based on project maturity.

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The estimated quantities of petroleum that may potentially be recovered by the application of 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.

We thank shareholders and our team for their ongoing support and welcome any questions they may have.

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

Yours faithfully

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