



DEVELOPING THE NEXT PREMIER GIPPSLAND BASIN GAS SUPPLY

THE JUDITH GAS FIELD (VIC/P47)
OPPORTUNITY

DECEMBER 2024

ASX: EMP



Disclaimer

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The information in this document will be subject to completion, verification and amendment, and should not be relied upon as a complete and accurate representation of any matters that a potential investor should consider in evaluating Emperor Energy Limited. Assumed in-the ground values of un-risked prospective potential resources assets as stated in text (ignoring finding and development costs). No assumption of either commercial success or development is either implied with their adoption by either the Company and its directors and representatives in the application of these indicative values to its assets.

Information on the Reserves and Resources on the Company's operated assets in this release are based on an independent evaluations conducted by 3D-Geo Pty Ltd (3D-Geo). 3DGeo is an independent geoscience consultancy specialising in petroleum. The technical work was undertaken by a team of geoscientists and petrophysicists and is based on open-file seismic and well data and data supplied by EMP. The technical assessment was performed primarily by, or under the supervision of Keven Asquith, Director 3D-Geo.

The technical information quoted has been compiled and / or assessed by Mr. Geoff Geary who is a professional geologist (Bachelor Science – Geology) with over 35 years standing and who is a Member of Petroleum Exploration Society of Australia. Mr. Geary has consented to the inclusion in this announcement of the matters based on the information in the form and context in which they originally appear – investors should speculative, refer to appropriate ASX Releases.

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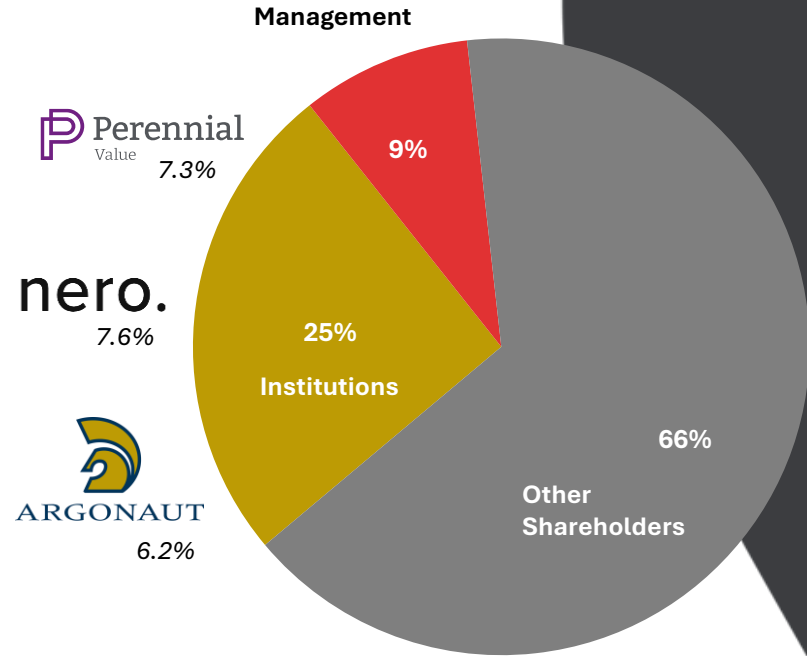
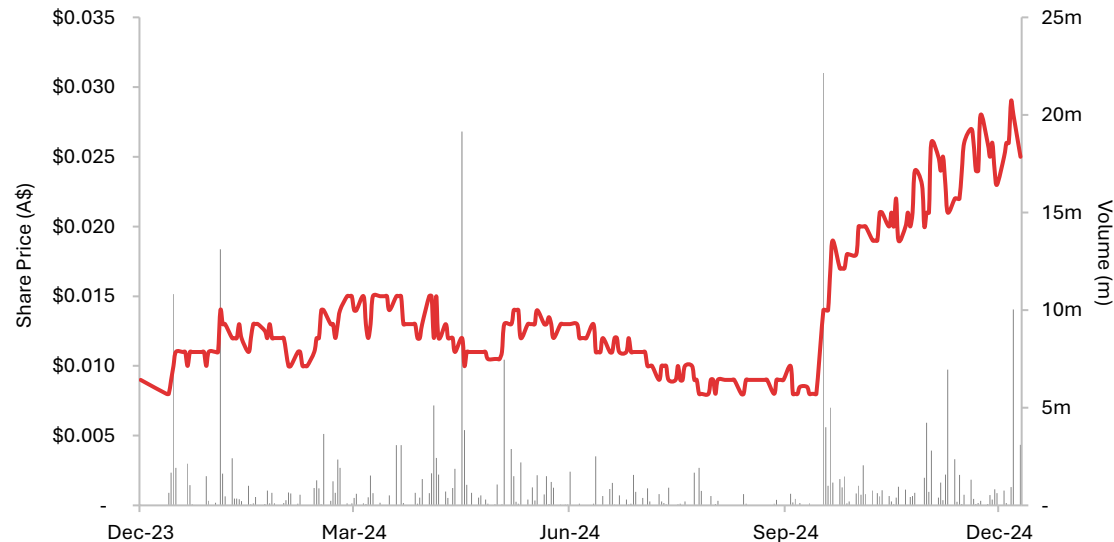
Company Profile (EMP.ASX)

EMPEROR ENERGY IS FOCUSED ON DEVELOPING ITS JUDITH GAS FIELD VIC/P47, STRATEGICALLY SITUATED IN THE GIPPSLAND BASIN, VIC.

BOARD & KEY CONSULTANTS

Mr. Carl Dumbrell	Director & Company Secretary
Mr. Phil McNamara	Director
Mr. Nigel Harvey	Director
Mr. Malcolm King	Project & BD Consultant
Mr. Geoff Geary	Geological Consultant
Mr. Steve Adams	Petrophysical Consultant

SHARE PRICE PERFORMANCE



SHARE PRICE

\$0.025 17-Dec-24

SHARES ON ISSUE

710M^{1 2}

MARKET CAP

\$17.8M¹ 17-Dec-24

CASH ON HAND

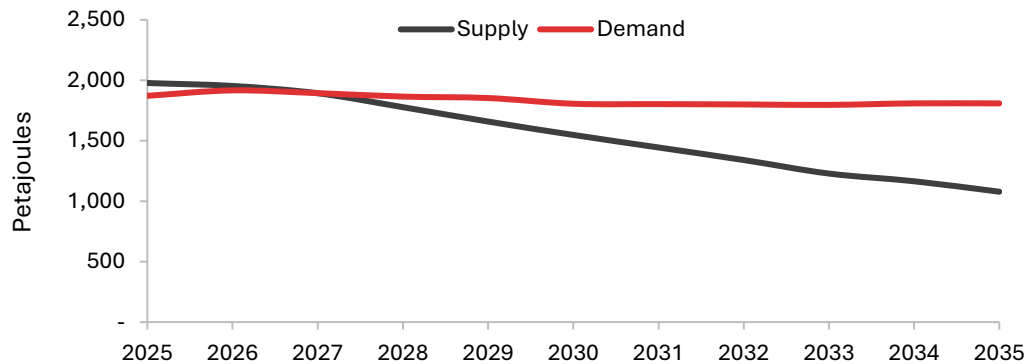
\$3.8M¹

1. Market capitalisation (at \$0.025), shares on issue and cash position are on a pro-forma basis assuming gross placement proceeds of \$3.0m and existing cash of \$0.8m (as at 30 Nov 24)
 2. Excludes 15m unlisted options (\$0.015, exp. 02 Dec 27)

Rapid Production Decline on East Coast

VICTORIA GAS SUPPLY FORECAST TO FALL 48% BY 2028

- Gippsland, Otway, and Bass facilities face declining production capacity as legacy fields wind down
- Decommissioning at the Longford Gas Plant is already in motion, with Gas Plant 1 closed in July 2024
- Gas Plant 3 slated for shutdown later this decade, eventually cutting Longford's daily capacity to 420 TJ/d
- By 2028, Victoria is forecast to face a consistent and growing gas supply gap, transitioning to a net importer as consumption outpaces production and storage
- In a recent report, EnergyQuest said the East Coast would experience shortages from 2026, **with only enough gas to meet 70% of NSW and ACT's needs in winters of 2026, 2027 and 2028**



Source: ACCC, AEMO

Victoria, NSW risk gas shortages unless they turn to imports

Gas shortage warning exposes deep energy mess

Once unthinkable, gas giant Australia is set to import supplies for the first time

Australia facing an eastern states gas shortage as supplies dwindle

Skyrocketing gas prices intensify fears of shortage this winter

Feature: Australia's east coast gas crisis and the pressures of a tightening market

Gas shortfalls for eastern states worse than predicted just months ago, ACCC warns

Australia gas producers endorse government strategy, warn of shortages this decade

WTF with BPH: Why Australia is headed for a gas shortage

12-month emergency cap on gas prices at \$12 per GJ

If LNG imports were in operation today, the gas would cost Squadron (jointly owned by Andrew and Nicola Forrest) about \$25Gj (\$23Gj + an import margin).

VIC/P47 Title Location

SITUATED IN A PREMIER HYDROCARBON PROVINCE

- Located 200km east of Melbourne; perfectly positioned to provide South-Eastern Australia with a new source of domestic gas
- Ability for direct connection to the 797km Eastern Gas Pipeline (EGP) that delivers gas to Melbourne, Sydney and Adelaide
- Offshore from Orbost Gas Processing Plant (OGPP) and adjacent to operations of majors Exxon and Woodside
 - Exxon 50 % (Operator) / Woodside 50%:
 - Kipper¹ / Tuna / Turrum Gas Fields are currently producing and delivering to the Longford Gas Plant. Investment to date >\$5.5B
 - Amplitude Energy (AEL.ASX) (formerly Cooper Energy):
 - Sole Gas Field (65km offshore) is currently producing and is connected to its 100% owned OGPP
- Annual production in the Gippsland Basin is estimated to drop 55%, from 243 PJ in 2024 to 109 PJ by 2028, driven by the depletion of the Gippsland Basin Joint Venture's legacy fields².



1. Kipper unit joint venture ownership: Woodside (32.5%), Exxon (32.5%), Mitsui (35%)
2. 2024 Victorian Gas Planning Report Update - AEMO

Judith Gas Field Project

OPPORTUNITY FOR SIGNIFICANT INCREASE IN SCALE

- Project derisked by Judith-1 Discovery Well drilled 1989
- New 3D Seismic Acquisition in 2021
- Detailed Seismic interpretation and AVO analysis completed
- Petrophysical evaluation by Steve Adams in 2023
 - Significant permeability increase and confirmation of mobile gas columns
 - Game changing permeabilities are consistent with the wider Gippsland Basin
- Judith-1 Well Production Flow Modelling completed in 2024
- Seismic AVO Quantitative Interpretation completed in 2023 by Jarrod Dunne
 - Tied back and calibrated against Judith-1 and Kipper Wells
 - Study shows gas extending up-dip from Judith-1 Well
- Directly analogous to the Longtom Gas Field
 - Longtom-3 (horizontal) flowed 75 MMscf/day from the Longtom 200 & 300 gas sands
 - These sands remain untested below the Judith-1 Well TD
- Pre-Feed for pipeline and gas plant at Orbost completed
- Preliminary Judith-2 Well Design completed
- Environmental Plan for approval to drill Judith-2 well to be submitted in late January 2025

Fundamentals

100%

EMP OWNERSHIP

202km²

VIC/P47 PERMIT

198 BCF (P50)¹

JUDITH CONTINGENT RESOURCE

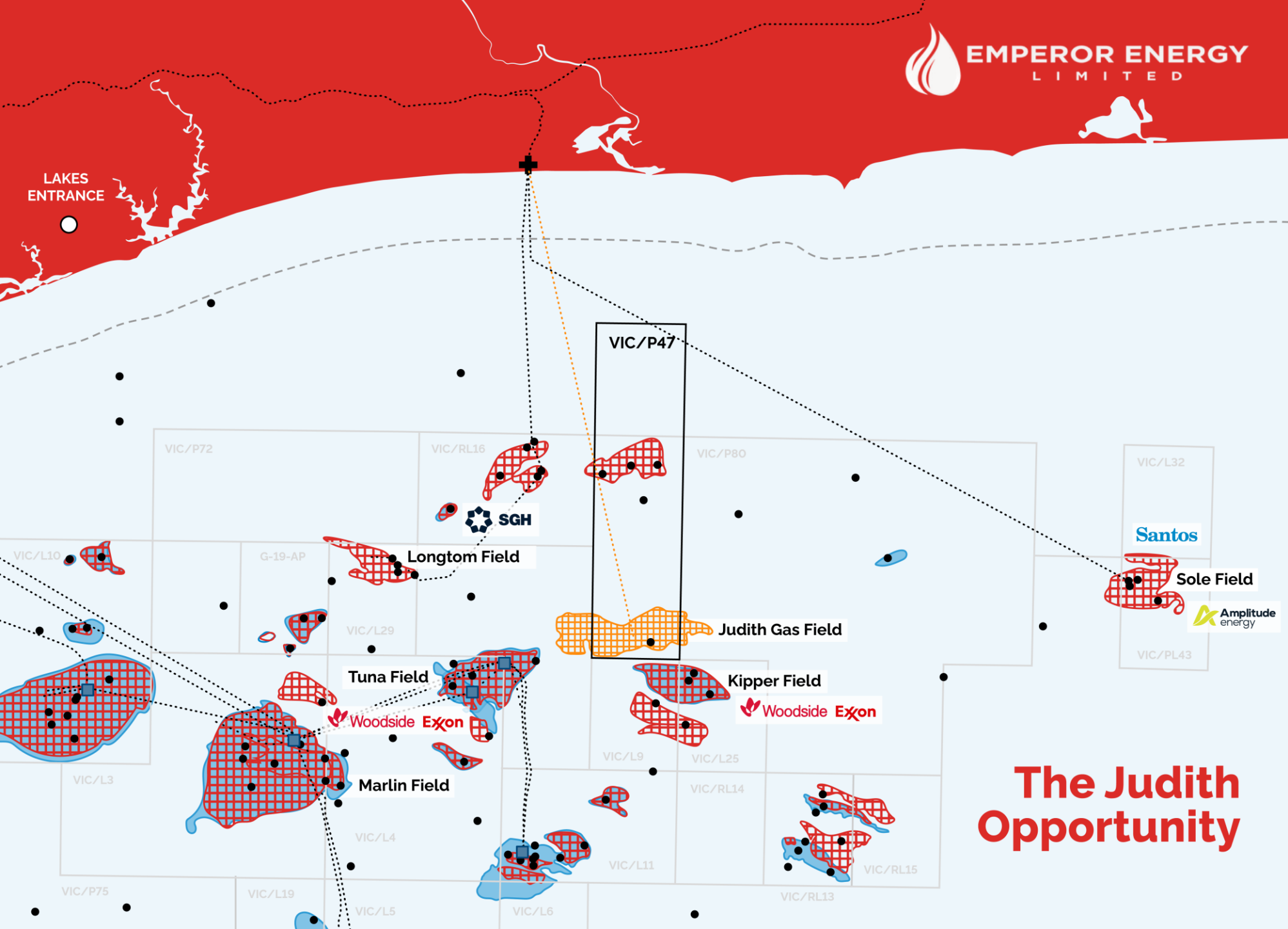
2.2 TCF (P50)²

JUDITH PROSPECTIVE RESOURCE

Proposed Judith-2 well

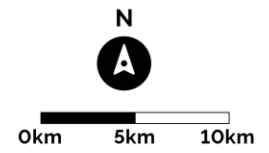
OPPORTUNITY TO INCREASE CONTINGENT
RESOURCE & DEFINE RESERVES

1. 2C Contingent Resource Recoverable around Judith1 Well Drilled in 1989. Probabilistic determination- October 2022
2. Prospective Recoverable Resource within Vic/ P47 Permit - October 2022
3. 2024 Victorian Gas Planning Report Update - AEMO



- EMP ASSETS**
- Petroleum Title (VIC/P47)
 - ⋯ Proposed Judith Gas Pipeline
 - ▣ Judith Gas Field

- EXISTING INFRASTRUCTURE**
- Petroleum Wells
 - Oil and Gas Platforms
 - ⊕ Orbest Gas Processing Plant
 - ⋯ Existing Oil & Gas Pipelines
 - Other Petroleum Titles
 - ▣ Gas Field
 - Oil Field
 - Coastal Waters (3NM)
 - Towns



The Judith Opportunity

Analysis Provides a Compelling Justification to Drill Judith-2 Well

“

Each time we experienced a drilling break from shales to sandstones within the range of target formations there were very strong gas shows irrespective of the heavily overweighted drilling fluid in use to suppress the well.

We were sure on the drilling rig that we had found something really big.

Subsequent interpretation of the wireline logging data was however deemed inconclusive at the time by Shell's petrophysicists in Aberdeen, Scotland and the well was plugged and abandoned without being flow tested.

Shell was looking for oil but discovered gas instead.

Malcolm King

SHELL WELLSITE GEOLOGIST ON JUDITH IN 1989



Valaris 107 – Jack Up Drill Rig

Updated Permeability Analysis a 'Game Changer'

SUBSTANTIAL IMPROVEMENT IN GAS MOBILITIES AND PERMEABILITIES BETTER ALIGN WITH VERY STRONG GAS SHOWS IN FOUR THICK SANDSTONE UNITS

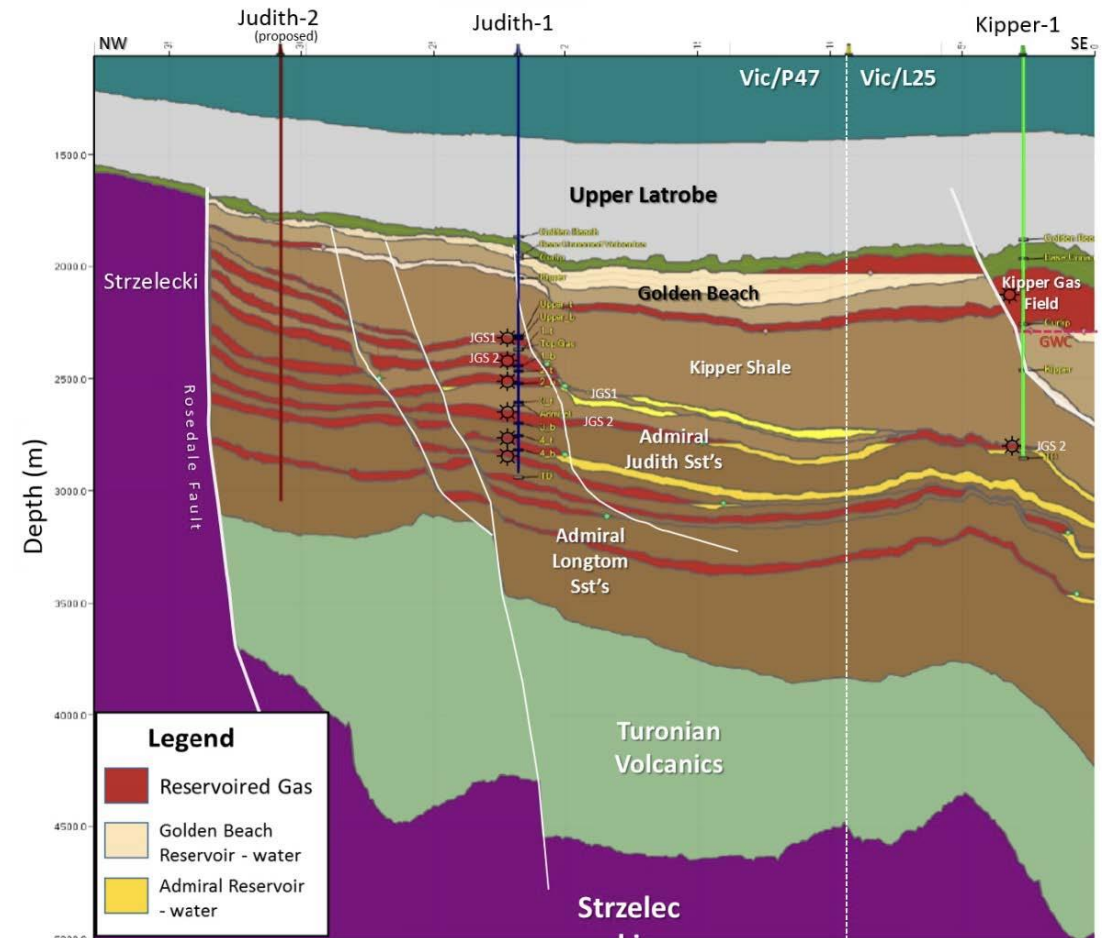
Zone	Depth	Interpretation	Net Thickness	Porosity %	Av. Permeability mD	Av. Gas Saturation %
Judith Gas Sand 1	2370m to 2441m	Mobile Gas	40.5	14.1	12.3	52.2
Judith Gas Sand 2	2489m to 2543m	Mobile Gas	38.8	15.0	24.2	63.8
Judith Gas Sand 3	2626m to 2720m	Mobile Gas	63.1	13.6	5.2	61.1
Judith Gas Sand 4	2778m to 2839m	Mobile Gas	47.1	12.6	1.6	56.4

- Steve Adams reviewed the petrophysics of Shell's 1989 Judith-1 Well with previous errors and incorrect assumptions rectified.
- The result was significantly improved gas mobilities and permeabilities that more closely align with the very strong gas shows in four thick sandstone units as witnessed by Malcolm King.
- Permeability controls rate of gas flow into production wells along with Gas Saturation and Reservoir Thickness
- Reservoir properties derived at higher permeabilities have been used for dynamic well production modelling. Resulting in significantly higher flow rates from gas production simulation.
- Results are now more consistent with analogous well observations in the Gippsland Basin
- From ASX Release: 7th September 2023

AVO-Modelled Mobile Gas

ANALYSIS OF WORLD-CLASS 3D SEISMIC DATA INDICATES OPPORTUNITY FOR SIGNIFICANT INCREASE IN GAS FIELD SCALE

- In 2023, an additional independent AVO analysis was completed by recognised subject matter expert Jarrod Dunne
- Analysis has been calibrated against the mobile gas columns in the Judith-1 Well as defined by Steve Adams in his Petrophysics analysis and original wireline logs
- AVO analysis has been tied back to the Judith-1 and Kipper-1 Wells
- Results Interpret reservoir gas:
 - Below the Judith-1 Well in the Longtom formations
 - Extending up-dip to the proposed Judith-2 Well
- From ASX Release: 30th October 2023



Stacked Judith & Longtom Gas Sand Reservoirs

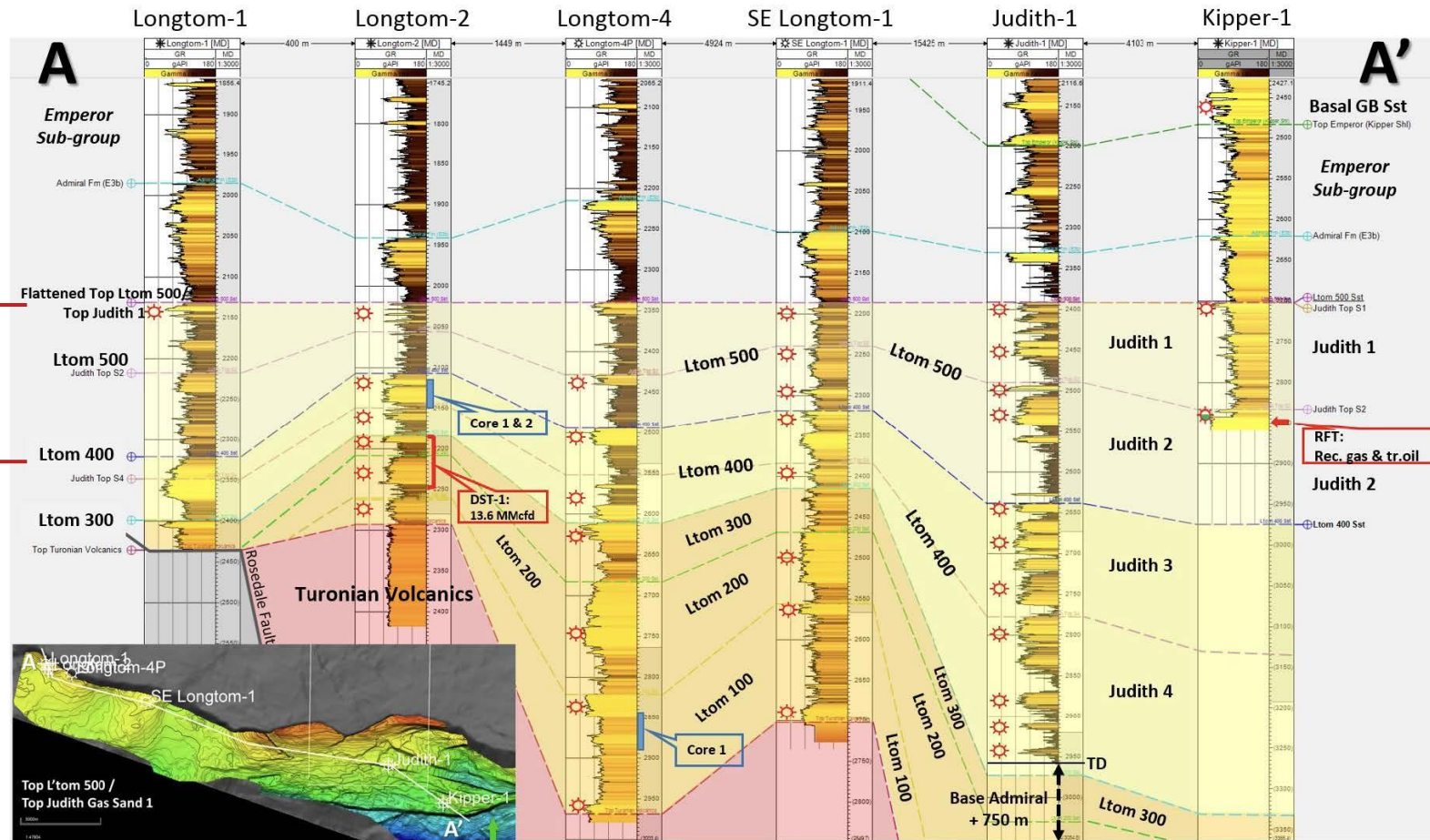
Longtom-1 to Judith-1 to Kipper-1

JUDITH GAS BEARING SANDS CORRELATE WITH LONGTOM GAS FIELD

Judith 1 & 2 sands are well developed at Judith-1 compared to thin or poorly developed equivalent Longtom 500 sands at the Longtom Gas Field

Longtom 400 is thin at Longtom compared to the expanded thick JGS 3 & 4 sections developed at Judith-1

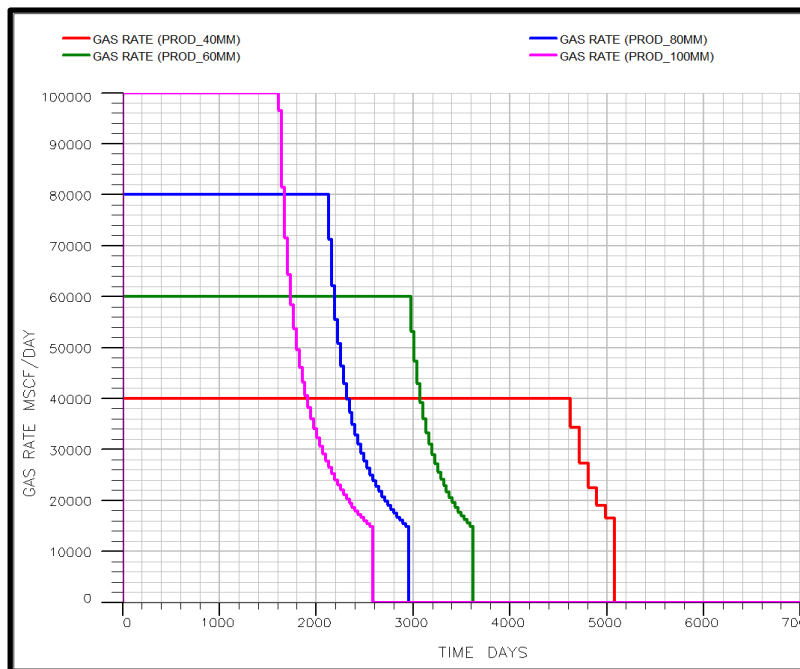
Longtom 300 DST-1 zone tested at 13.6MMscf/d and correlates below the TD of Judith-1 Well



Judith-1 Flow Modelling Supported by High Longtom Flow Rates

INDICATING TWO PRODUCTION WELLS REQUIRED FOR A JUDITH GAS FIELD DEVELOPMENT

- Modelling limited to 198 BCF of discovered 2C Contingent Gas Resource using results of revised 2023 petrophysical analysis, indicate the Judith-1 Well could sustain:
 - **A flow rate of 60MMscf/d for a period of 8 years**
 - **A flow rate of 40MMscf/d for 12 years.**
- Longtom-H3 flow tested in 2006
 - **Longtom 400 @ 30 MMscf/d**
 - **Longtom 300, 200 & 100 @ 77 MMscf/d**
- Peak Longtom production flow rates of 56-77 MMscf/d achieved from two horizontal wells: Longtom-3H and Longtom-4H



Gas production rates of the Judith-1 Well in cases of 40, 60, 80 & 100 MMscf/d
From ASX Release: 22nd April 2024



Production Test #2 Flowed 77 MMscf/d at Longtom

Technical and Development Partnerships

SUITE OF HIGHLY REGARDED TECHNICAL PARTNERS



SUMMARY

Research and consultancy firm specialising in energy and resources, providing detailed market insights, pricing analysis, and economic evaluations.

Provide independent technical assessments and strategic advice, specialising in oil and gas asset evaluations to guide critical decisions.

Offer integrated support across oil and gas project lifecycles, including environmental compliance and regulatory submissions.

Leader in underwater acoustics, offering comprehensive services in environmental assessments, acoustic modeling, and monitoring.

Energy services company specialising in well design, engineering, and management, delivering end-to-end gas well solutions.

Provides expertise in well design, drilling operations, and environmental management, delivering integrated solutions across the well lifecycle.

SCOPE OF WORK

Gas market report & development scenarios

Resource certification & independent technical report

Environmental plan

Noise modelling

Well design & management

Oil spill modelling

Investment and Strategic Partnerships

STRATEGIC, ADVISORY-LED TRANSFORMATION



Full-service advisory, stockbroking, research & investment house, engaged to bolster efforts to secure strategic investment partners to fund Judith-2 well appraisal.

Executive Chairman of Argonaut, Eddie Rigg, commented:

“When this opportunity was referred to Argonaut, it reminded me of the renaissance of the Perth Basin where Argonaut played an integral role.

There are so many compelling factors that should see Judith-2 drilled: high gas prices driven by enormous and unsatisfied domestic demand; proximity to infrastructure; the 2020 3D seismic survey interpreted with favourable results; petrophysics study completed by Steve Adams; AVO analysis; prospective resources of +2TCF; our knowledge that gas is present, and the prolific deeper Longtom sands contained within the permit are yet to be tested.”

SUBSTANTIAL INSTITUTIONAL PARTICIPATION IN PLACEMENTS

nero.

Perennial Value



MEMORANDUM OF UNDERSTANDING (MOU):



Non-binding MOU with Amplitude Energy (ASX:AEL) formerly Cooper Energy (ASX: COE), a leading South-east Australian exploration and production Company with processing capabilities at the Athena Gas Plant and Orbost Gas Plant.

Purpose of MOU is to keep discussions open regarding utilisation of the Company’s Orbost Gas Processing Plant and adjacent sites, for the processing and transfer of gas from the Judith Gas Field.

History and Timeline to Judith-2 Drilling

1989

Judith-1 Discovery Well drilled by Shell and intersected 189m (net) gas bearing sands but was Plugged and Abandoned without flow testing

1995

Discovery of the Longtom Gas Field just 15km West of Judith

2017

3D seismic processing /mapping and interpretation completed

2018

Resource Statement released

2020

Pre-feed study of development with access to Orbest Gas Plant

SEP 2024

Institutional Placement and appointment of Argonaut

2023

Gas Sand Permeabilities re-calculated resulting in a significant increase in expected permeabilities

2022

Completion of Secondary 3D seismic processing /mapping and interpretation

2022

MOU with Amplitude (Cooper Energy)

2021

Purchase of 3D seismic data from CGG

DEC 2024

Institutional Placement and Appointment of Key Technical Partners

JAN 2025

Submit NOPSEMA Environmental Plan Application

MAR 2025

Strategic process to commence targeting industry end users as farm-in partners

JUN 2025

Secure 'hot' drilling rig for Judith-2 well

JUN 2026

Drill programme commences

Judith-2 Appraisal Well Objectives

Increase Contingent Resource to +600 BCF

- Drilling of Judith-2 in the Central Block is expected to convert the existing 430BCF P50 Central Block Prospective Resource to 2C Contingent Resource
- When combined with existing 198 BCF 2C Contingent Resource at Judith-1, the total 2C Contingent Resource is expected to increase to +600 BCF
- 600 BCF 2C Contingent Resource is considered to exceed the Minimum Economic Field Size for a standalone development

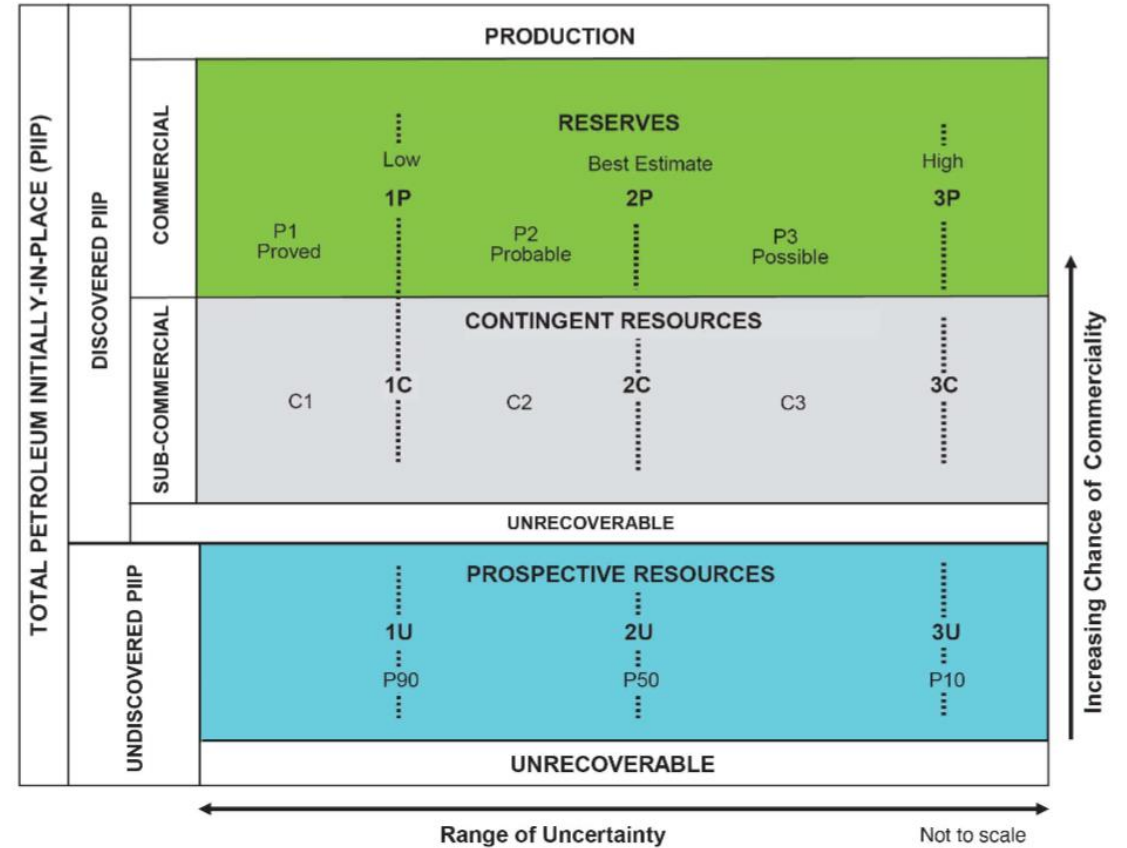
Demonstrate reservoir producibility at this location via Drill Stem Test

Explore/Test the Longtom 200 & 300 sands located below Judith-1 Well

- The Longtom 200 & 300 sands were not penetrated in the original Judith-1 Well and are located by seismic below the TD of the well
- They are the principal producing sand of the Longtom Gas Field

Convert the Contingent Resource to 2P Reserves

- Apply the design and updated costings of the 2020 Pre-FEED study
- Complete an economic analysis on a minimum field size
- A positive economic outcome should result in a **2P Reserve**



SOURCE: TABLE SHOWING PETROLEUM RESOURCES MANAGEMENT SYSTEM, RESOURCES CLASSIFICATION FRAMEWORK FROM THE PETROLEUM RESOURCES MANAGEMENT SYSTEM (PMRS)

Well Funding Strategy

Argonaut appointed as strategic financial advisor to assist in **bringing in an investment consortium to drill the Judith-2 well and develop the Judith Gas Field**

Argonaut to launch the strategic process in March 2025 **initially targeting industry end users**, connected to the East Coast Gas Pipeline, **who consume high volumes of gas** including manufacturing industries

Soundings with industry end users of gas confirm they are **seeking to secure gas offtake** to meet their long-term energy requirements **imitating the role Alcoa played in the renaissance of the Perth Basin**

Argonaut will target **industry end users and traditional oil and gas players to farm-in into the Vic/P47 permit** to fund the Judith-2 well planned for mid-2026



Future Gas Strategy Drives Case for Investment

POISED TO SUPPLY SOUTHEASTERN AUSTRALIA WITH A NEW SOURCE OF GAS

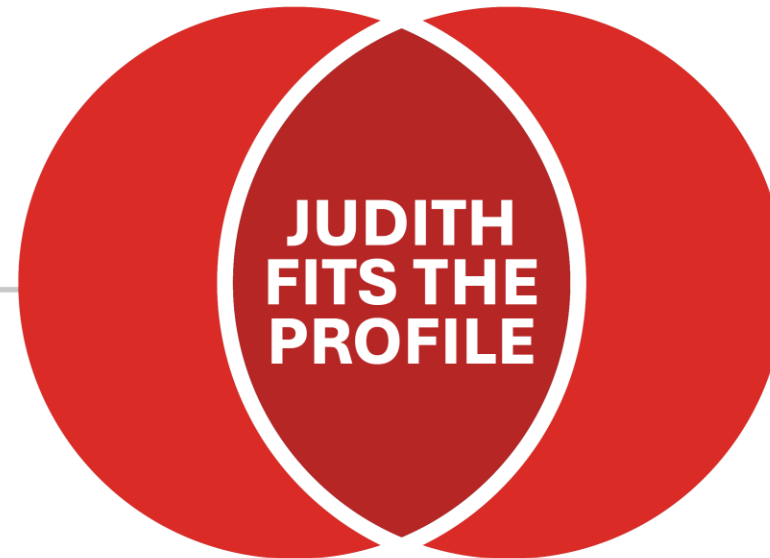
FEDERAL GOVERNMENT FUTURE GAS STRATEGY OBJECTIVES

Gas remains critical to energy security through to 2050

New sources of gas supply vital to energy transition

Natural gas exploration and development policy to focus on leveraging existing discoveries and infrastructure

Technology-neutral approaches to exploration data acquisition should be applied



Size and Life of Resource

Judith is an 80TJ/day solution to the gas crisis in southeastern Australia. Capable of delivering 575 MW continuous electricity supply

Proximity to infrastructure

Proximal to existing infrastructure of the Gippsland Basin Joint Venture (Exxon Mobil / Woodside)

MOU in place for development

To explore utilisation of Amplitude Energy's (formerly Cooper's) Orbost Gas Processing Facility and adjacent sites

2020 3D Seismic Survey

Existing ultra-modern seismic removes need for any future seismic works

Appendices



Judith-2 Well Targeting additional 430 BCF Contingent Resource

SUMMARY OF CONTINGENT AND PROSPECTIVE RESOURCES

Drilling of Judith-2 in the **Central Block** (Table 2) is expected to increase the global Contingent Resource by **430 BCF P50**.

When combined with existing 198 BCF P50 Contingent Resource from Judith-1 (Table 1), the Total Contingent Resource is expected to increase to +600 BCF. This is considered to exceed the Minimum Economic Field Size for a standalone development.

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

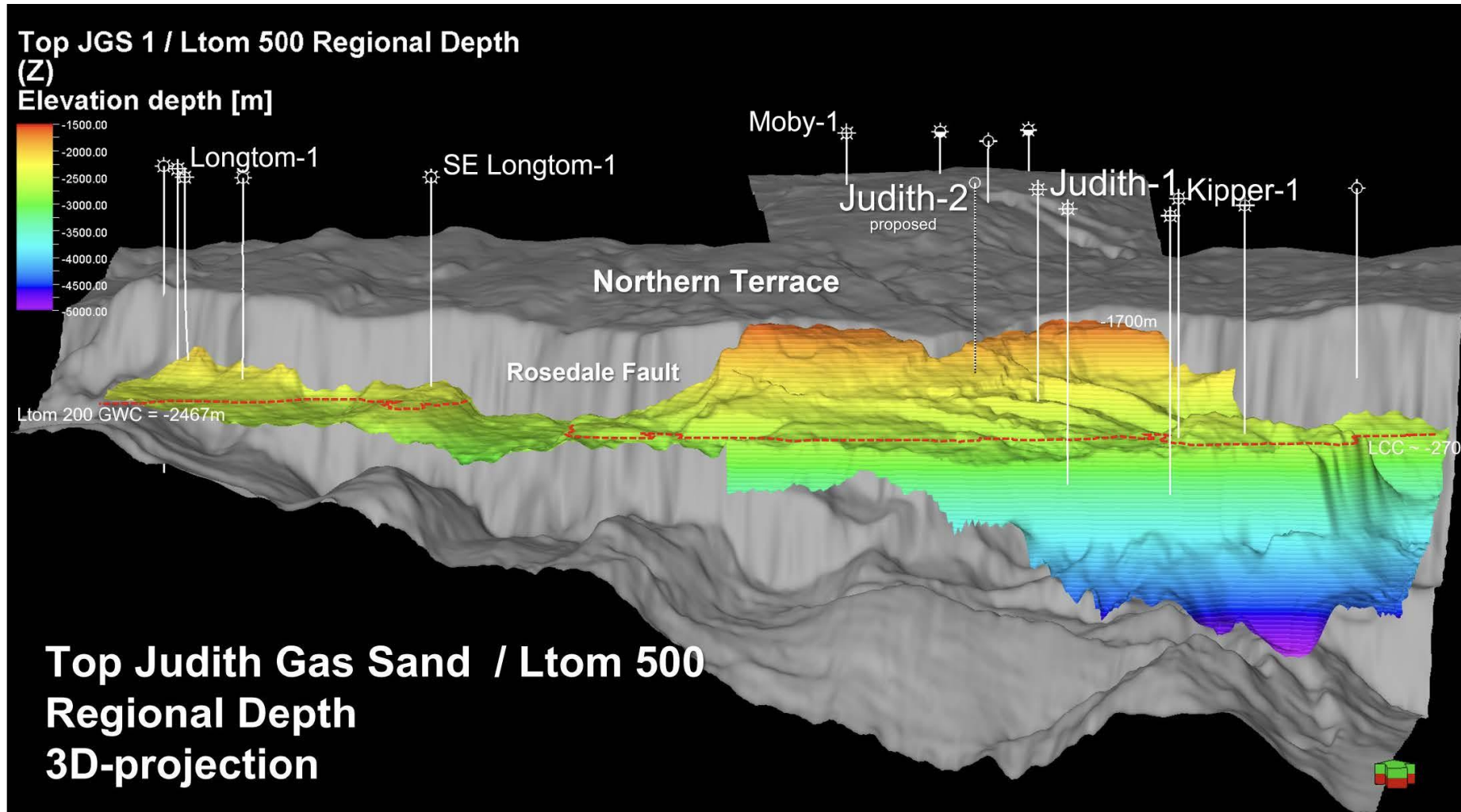
Table 1: Summary of Contingent Resources for Judith area of VIC/P47, (3D-GEO, October 2022) (Probabilistic Determination) (ASX: 13 October 2022)

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

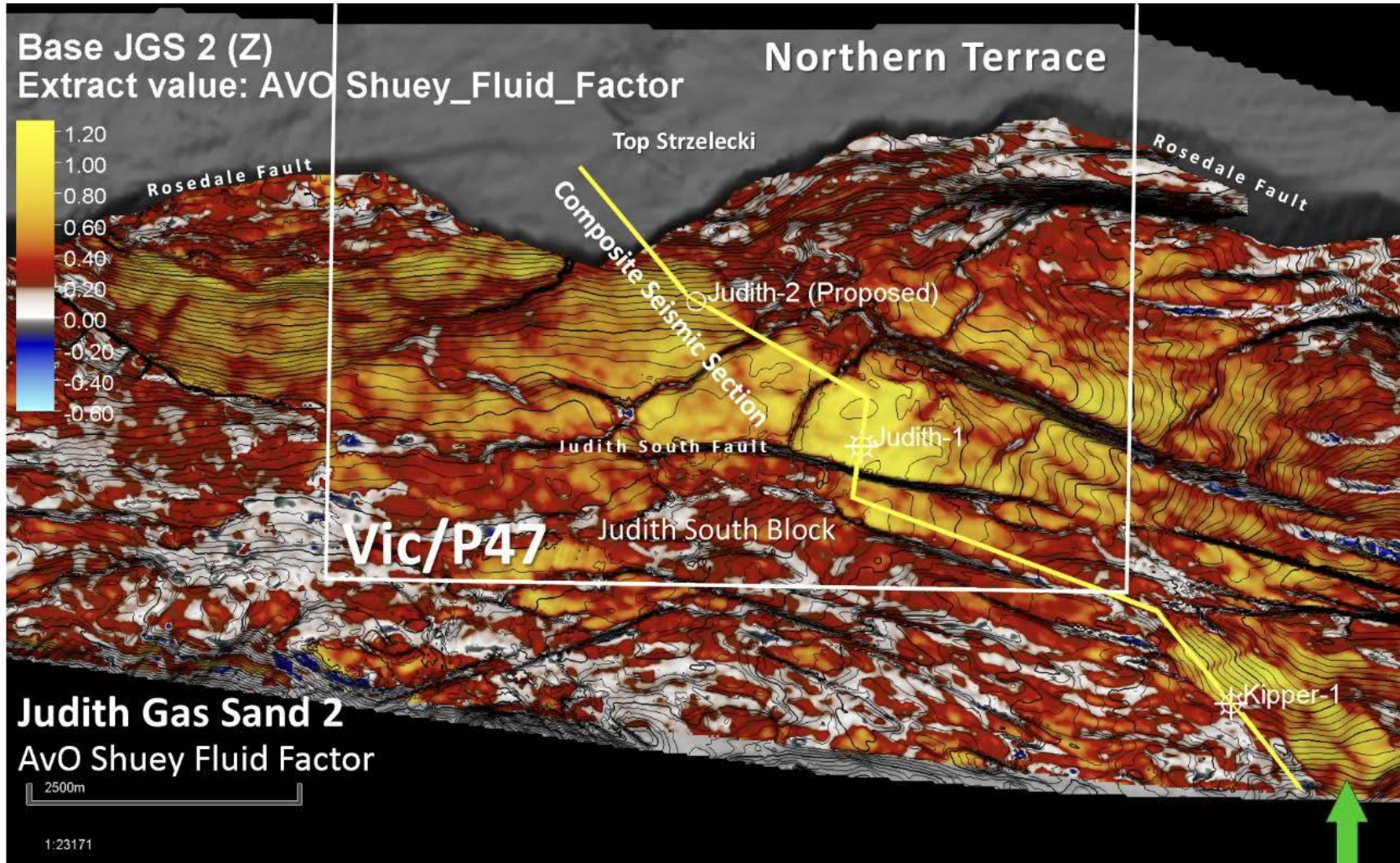
Table 2: Summary of Prospect Prospective Resources for Judith area of VIC/P47, Judith and Longtom Sandstones (3D-GEO October 2022) (ASX:13 Oct 2022)

Structural Configuration

THE SHALLOWEST JUDITH RESERVOIR (JGS1) WAS INTERPRETED TO LONGTOM WHERE IT CORRELATED WITH THE LONGTOM 500 GAS SAND



Shuey Fluid Factor Judith Gas Sand 2



- AVO map of Judith Gas Sand 2 shows lateral extent of gas effect response across the Judith Gas Field.
- The seismic cross section line shown in yellow was used for Jarrod Dunne's analysis,

Board / Management and Key Consultants

A WEALTH OF DIVERSIFIED EXPERTISE AT EMPEROR'S HELM

Mr. Carl Dumbrell (B Com, M Tax)

DIRECTOR & COMPANY SECRETARY

Carl Dumbrell is a Chartered Accountant (Australia, England & Wales) with 25 years' experience in taxation and assurance services.

Mr. Phil McNamara (B Eng)

DIRECTOR

Phil McNamara is a Mining Engineer with more than 35 years in the resources industry, spanning various operational roles up to mine management and director level.

Notably, Phil was the founding CEO and Managing Director of ASX listed Armour Energy (ASX: AJQ).

Mr. Nigel Harvey (B Com)

DIRECTOR

Nigel Harvey is an experienced Business and Finance Journalist and Investment Banker with decades of experience covering the Asia Pacific region for energy derivatives and hedging.

He has held roles with large banks including JP Morgan and Macquarie.

Mr. Malcolm King

PROJECT & BD CONSULTANT

Malcolm King is a seasoned oil & gas executive with more than 35 years experience across technical, commercial and leadership roles in Australia and internationally, most of this with Shell. He was Shell's wellsite geologist for the drilling of the Judith-1 discovery in 1989.

More recently, Malcolm was the Head of Commercial and New Ventures for Senex Energy (ASX:SXY) and has served on the boards of Emperor Energy and Triangle Energy (ASX:TEG). Malcolm is a AICD director program graduate and currently serves on the board of Buru Energy (ASX:BRU).

Mr. Geoff Geary

GEOLOGICAL CONSULTANT

Geoff Leary is a consultant petroleum geologist with over 40 years' experience in the industry, at majors including Exxon/Mobil, Shell, Woodside and Mitsui.

He is experienced in sedimentary basin analysis, sequence stratigraphy, structural geology, seismic interpretation, basin modelling and oil & gas field evaluation and development.

Mr. Steve Adams (B Sc, M Sc)

Petrophysics Consultant

Steve has an MSC in Physics with First Class Honours. He has been a Petrophysicist since 1987. Following training and an initial 7 years with Shell, he has worked as an independent consultant with clients in Australasia, Asia, Europe, the Middle East and elsewhere. Steve has also worked extensively for Reserves Auditing companies including Gaffney-Cline, RPS and RISC. Steve is a member of the SPWLA and the SPE. Steve has more than 20 papers published and is highly regarded in the Industry as a Technical Expert. Steve is a Specialist in Saturation-Height Modelling

Gas unit abbreviations & conversions

Common natural gas unit abbreviations:

Mscf = Thousand Cubic Feet

MMscf = Million Standard Cubic Feet

BCF = Billion Cubic Feet

TCF = Trillion Cubic Feet

GJ = Gigajoule (metric measure of energy)

TJ = Terajoule (metric measure of energy)

PJ = Petajoule (metric measure of energy)

Gas unit conversions:

1Mscf = 1.05 GJ (Gas Cap Price is \$12/GJ)

1 MMscf = 1.05 TJ

1 BCF = 1.05 PJ

1,000 Mscf = 1 MMscf

1,000 MMscf = 1 BCF

1,000 BCF = 1 TCF



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