



Judith Gas Field Appraisal & Exploration Opportunity

2.2 Tcf P50 Prospective Recoverable Gas Resource

198 Bcf 2C Contingent Resource

PESA Deal Day Presentation

(Petroleum Exploration Society of Australia)

15th May 2023

IMPORTANT NOTICE & DISCLAIMER

- This presentation is for the sole purpose of preliminary background information to enable recipients to review the business activities of Emperor Energy Limited ABN 56 006 024 764 (ASX: EMP). The material provided to you does not constitute an invitation, solicitation, recommendation or an offer to purchase or subscribe for securities. Copies of Company announcements including this presentation may be downloaded from www.emperorenergy.com.au or general enquires may be made by telephone to the Company on (612) 9275 8878.
- 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). 3D-Geo is a 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 at all times refer to appropriate ASX Releases.
- Investment in Emperor Energy Limited is regarded as speculative and this presentation includes certain forward looking statements that have been based on current expectations about future acts, events and circumstances. These forward-looking statements are, however, subject to risks, uncertainties and assumptions that could cause those acts, events and circumstances to differ materially from the expectations described in such forward looking statements. These factors include, among other things, commercial and other risks associated with estimation of potential hydrocarbon resources, the meeting of objectives and other investment considerations, as well as other matters not yet known to the Company or not currently considered material by the Company.
- Emperor Energy Limited and its directors and representatives accepts no responsibility to update any person regarding any error or omission or change in the information in this presentation or any other information made available to a person or any obligation to furnish the person with further information and Emperor Energy Limited and its directors and representatives do not endorse or take any responsibility for investments made.



Introducing Emperor Energy Team

A team of experienced E&P and corporate professionals



Phil McNamara
Director

- 37 years in the resource industry
- Former CEO and Managing Director of Amour Energy (ASX:AJQ)
- Former Managing Director Waratah Coal



Carl Dumbrell
Director

- Chartered Accountant, Australia, England & Wales
- EMP Company Secretary
- Executive Director of Herencia Resources PLC (AIM:HER)



Nigel Harvey
Director

- Former investment banker with JP Morgan and Macquarie
- Chairman of mid size not for profit organisation
- AFSL licence holder



Malcolm King
*Project & BD
Consultant*

- ~30 years' experience in upstream oil & gas and power with Shell
- Former Head of Commercial and New Ventures for Senex Energy (ASX:SXY)
- Wellsite geologist for Shell Judith-1 Gas Discovery (1989)



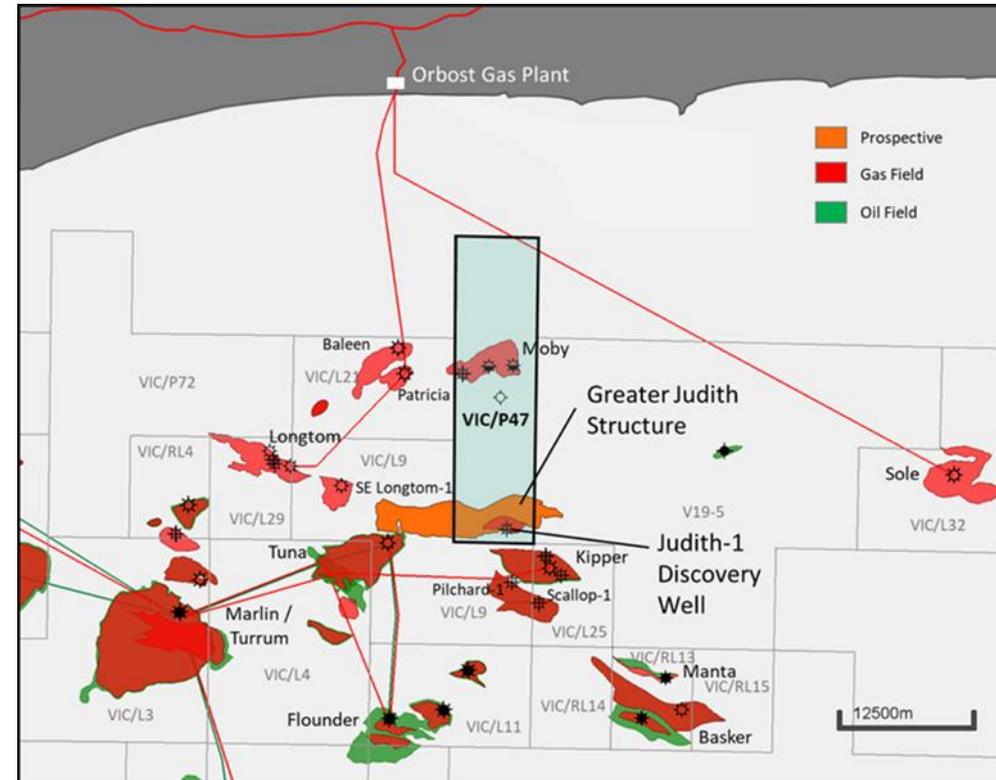
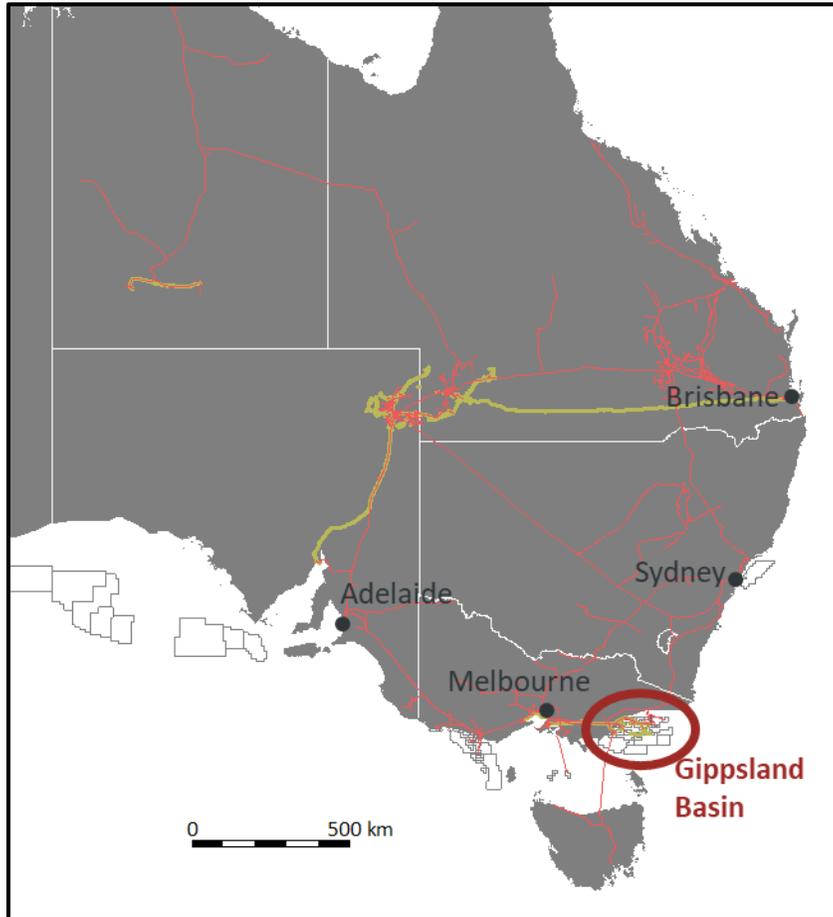
Geoff Geary
Geological Consultant

- Over 35 years experience in the petroleum industry
- Extensive experience in the Bass Strait with Exxon



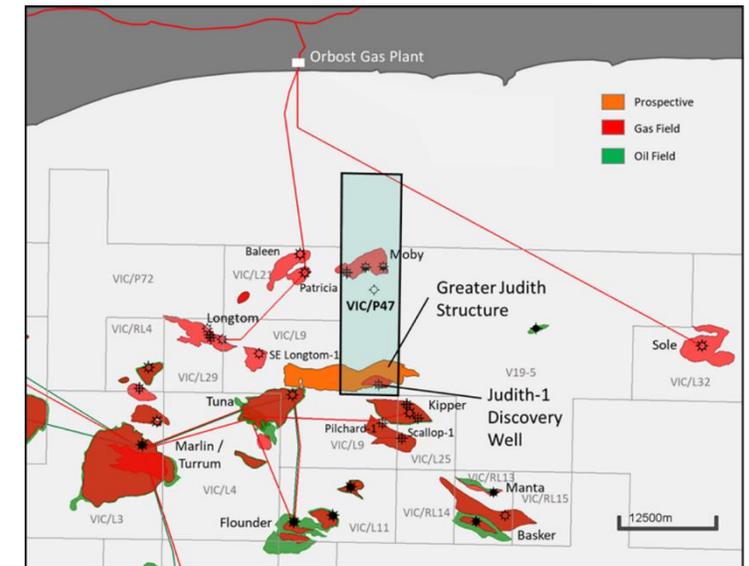
Gippsland Basin, 40km offshore

New pipeline to shore at Orbost would provide access to East Coast domestic gas market



Judith-1 discovered multiple stacked reservoirs

- Judith & Longtom Gas Sands:
 - **1.627 TCF (P50)** Prospective Recoverable Resource (unrisked)
 - Plus additional 2C Contingent Resource of **198 BCF (P50)** Recoverable
- Kipper and Golden Beach Sands
 - Additional **622 BCF (P50)** Prospective Recoverable Resource (unrisked)
- Project de-risked by **Judith-1 discovery well** and **new 3D seismic** with **positive AVO response**
- Judith is on trend and directly analogous to the Longtom and SE Longtom gas fields
 - Longtom-3 (H) flowed 75 MMSCFD
- Potential path to production at Orbest Gas Plant via MOU with Cooper Energy
- Pre-FEED previously completed with APA prior to sale of Orbest Gas Plant to Cooper Energy
- Preliminary design, schedule and costings are understood enabling a fast-track development
- Judith Gas Project well positioned to sell into the supply constrained Eastern Domestic Gas Market



Emperor owns 100% of VIC/P47

Permit is in good standing. Judith appraisal well due August 2023.

Permit Suspension/Extension to be requested with NOPTA based on the now extended EP Stakeholder Consultation process

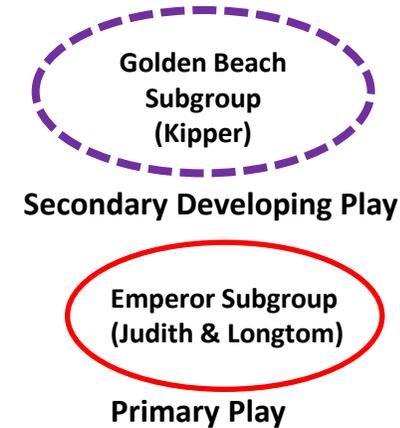
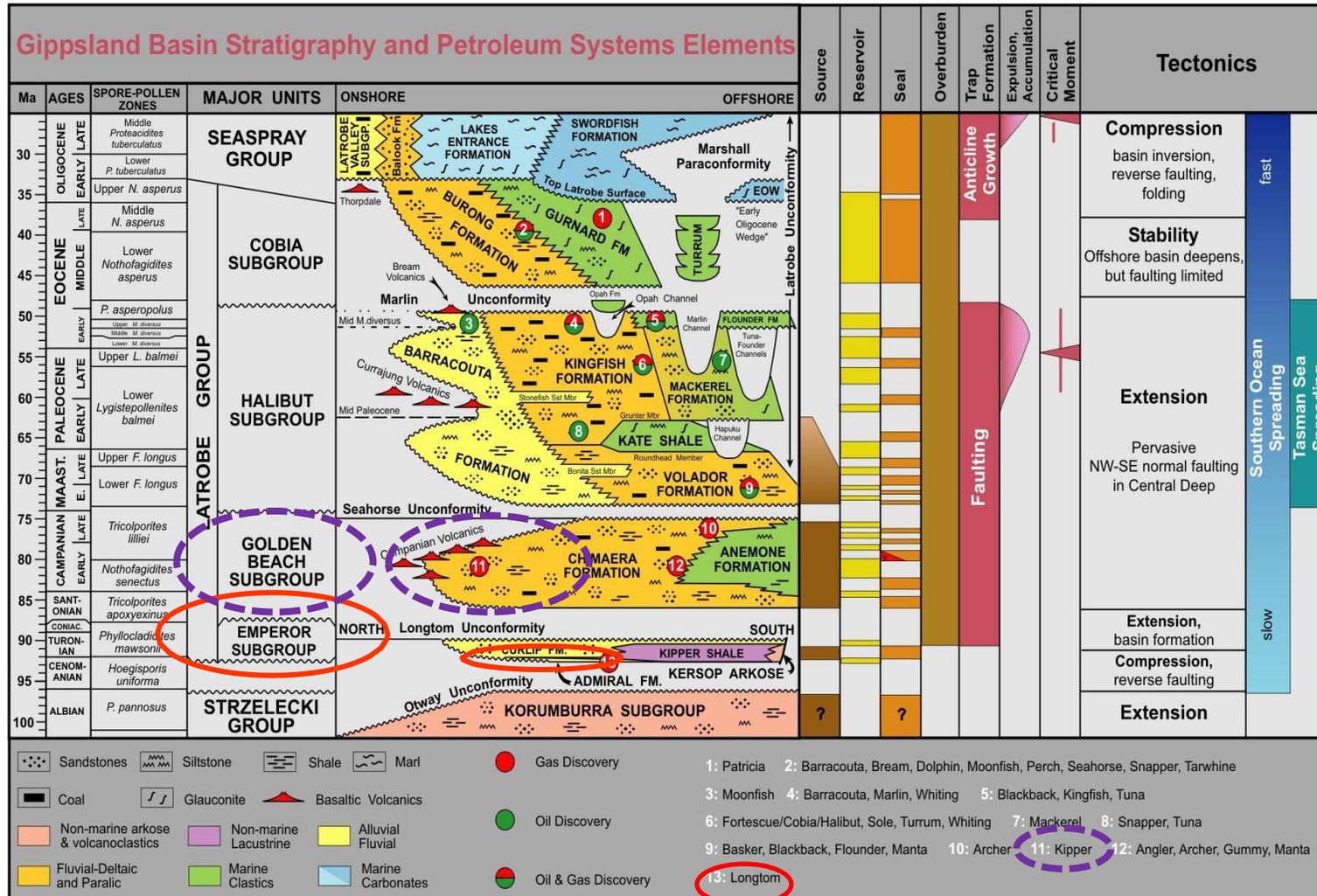
- **Ownership:** Emperor owns 100% of 203 km² VIC/P47, which covers the Judith-1 gas discovery

Year	Start Date	End Date	Activity Description	Indicative Expenditure (AUD)	Complete?
1-3	23/02/2018	22/08/2023	Geotechnical studies including detailed resource assessment, preliminary reservoir engineering, target selection and well planning	\$400,000	✓
			Purchase of 45 km ² of multi-client 3D seismic from CGG - comprising all available MC3D full-fold coverage in VIC/P47*	\$580,000	✓
			Interpretation and mapping of newly purchased 45 km ² of Multi Client 3D seismic data*	\$150,000	✓
			Confirmation of drilling target/s and detailed well planning and preparation	\$1,300,000	In progress
			Drill one well	\$35,000,000	
4	23/08/2023	22/08/2024	Post-well evaluation studies	\$500,000	
5	23/08/2024	22/08/2025	Geotechnical studies including commerciality assessment	\$300,000	



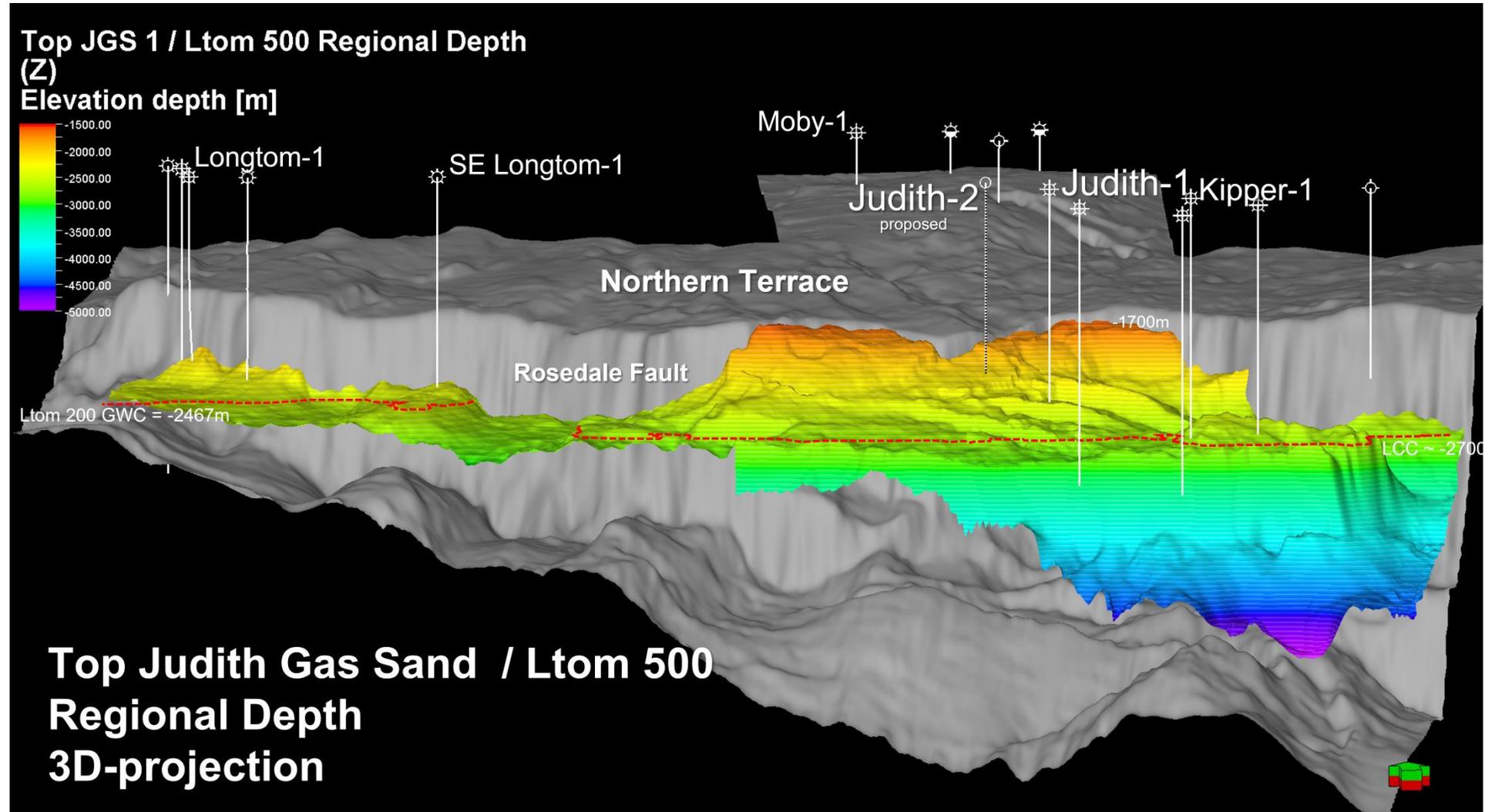
Gippsland Basin Stratigraphy

- **Judith and Longtom gas reservoirs** – early rift fluvio-lacustrine Cenomanian sediments of the Emperor Subgroup
- **Kipper and Golden Beach Subgroup reservoirs** – a secondary, developing play extending from Kipper Gas Field



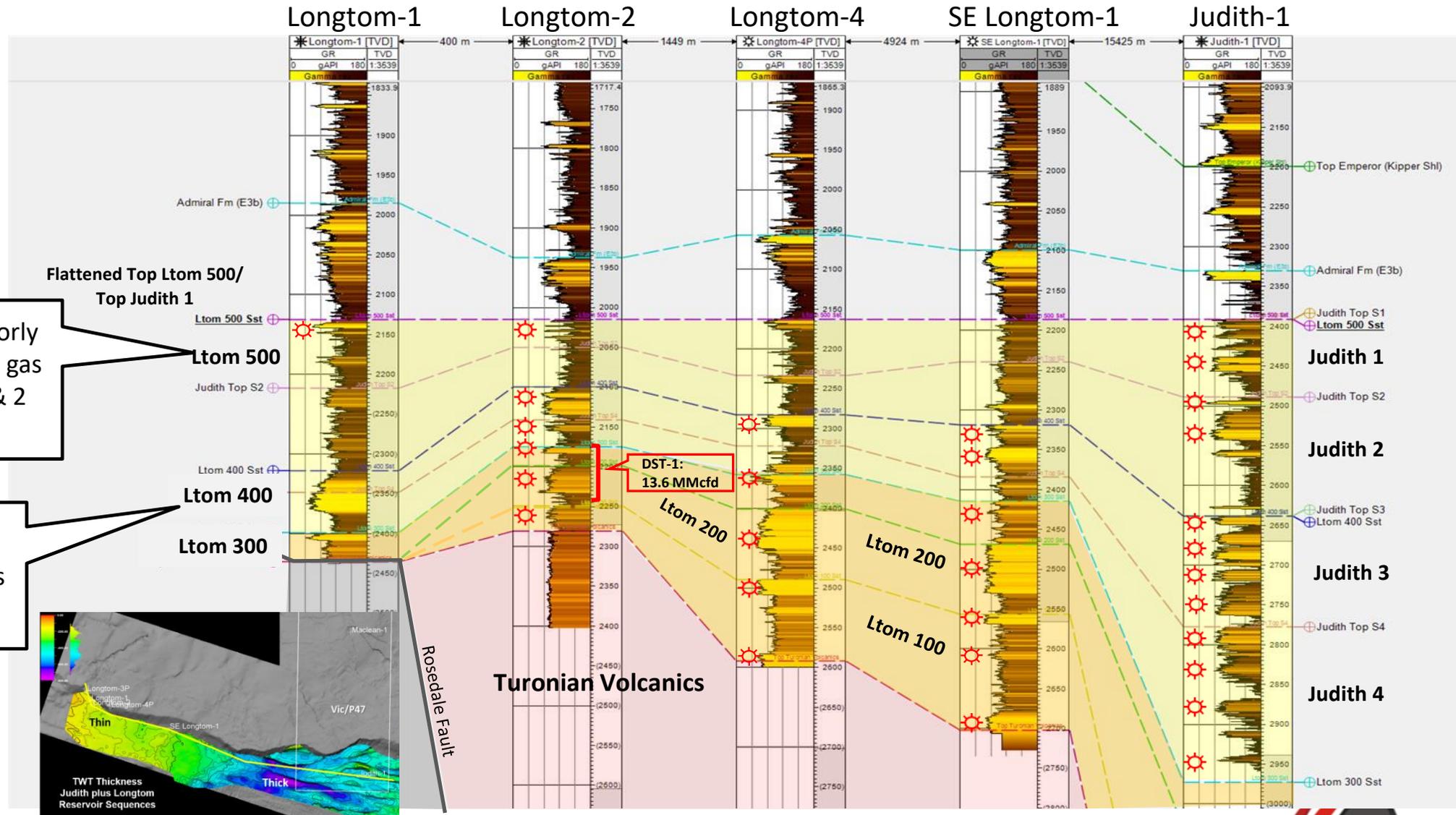
VIC/P47 Structural Configuration

The shallowest Judith reservoir (JGS1) was interpreted to Longtom where it correlated with the Longtom 500 Gas Sand



Longtom-1 Well to Judith-1 Well

Cross-section of Longtom and Judith reservoir sequences

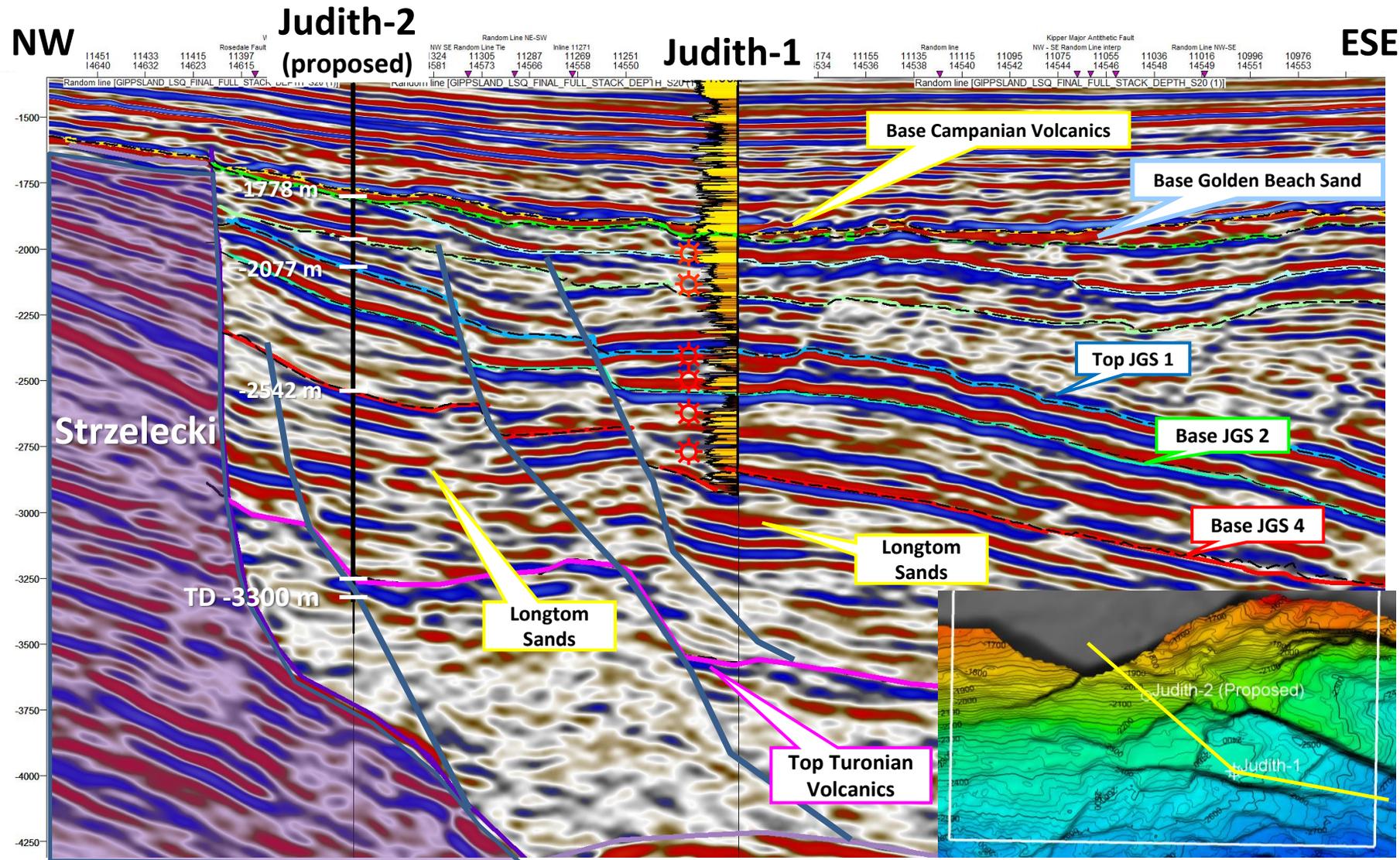


Ltom 500 sands thin or poorly developed across Longtom gas field compared to JGS 1 & 2 section at Judith-1

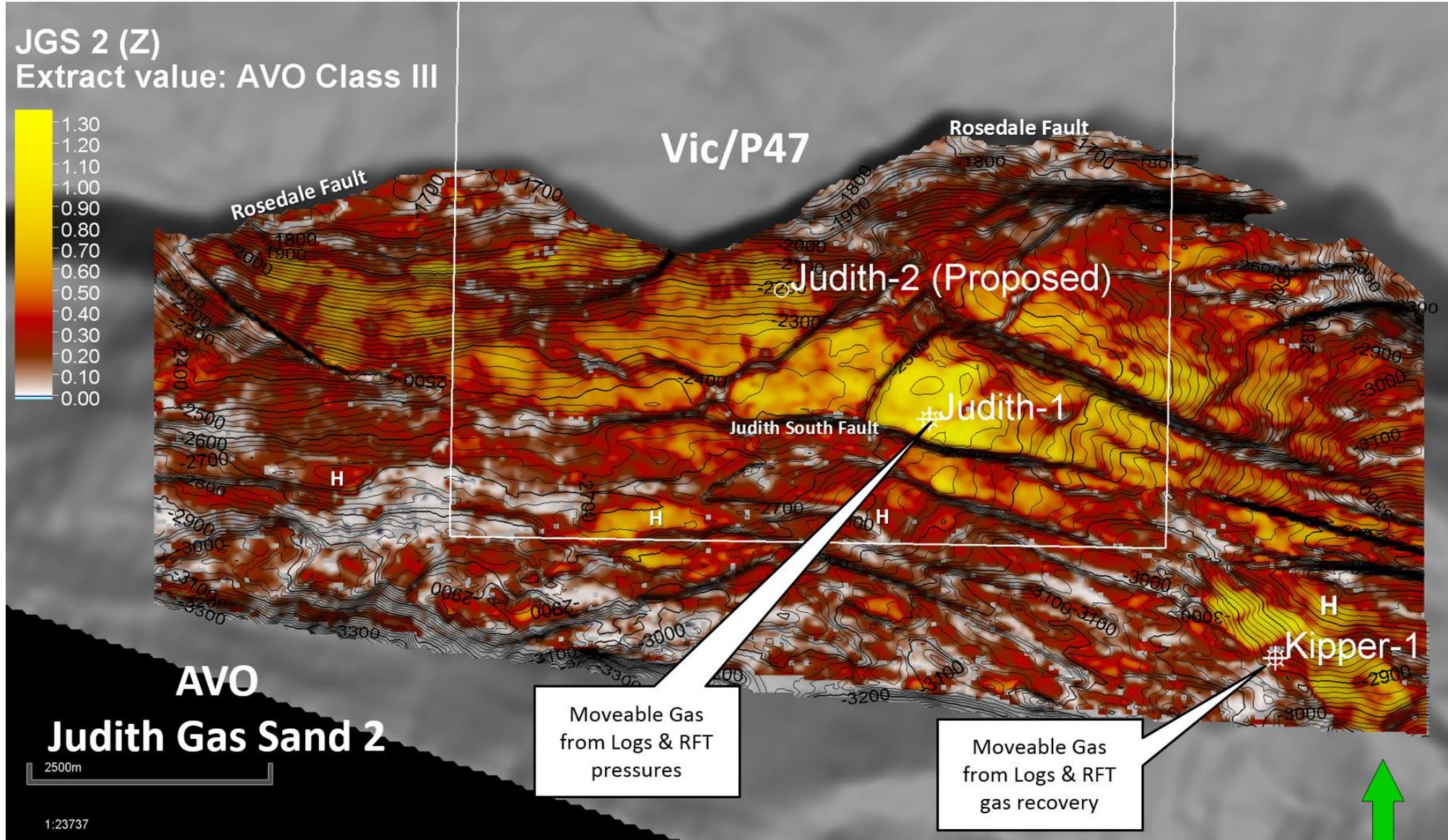
Ltom 400 thin compared to expanded JGS 3 & 4 sections developed at Judith-1



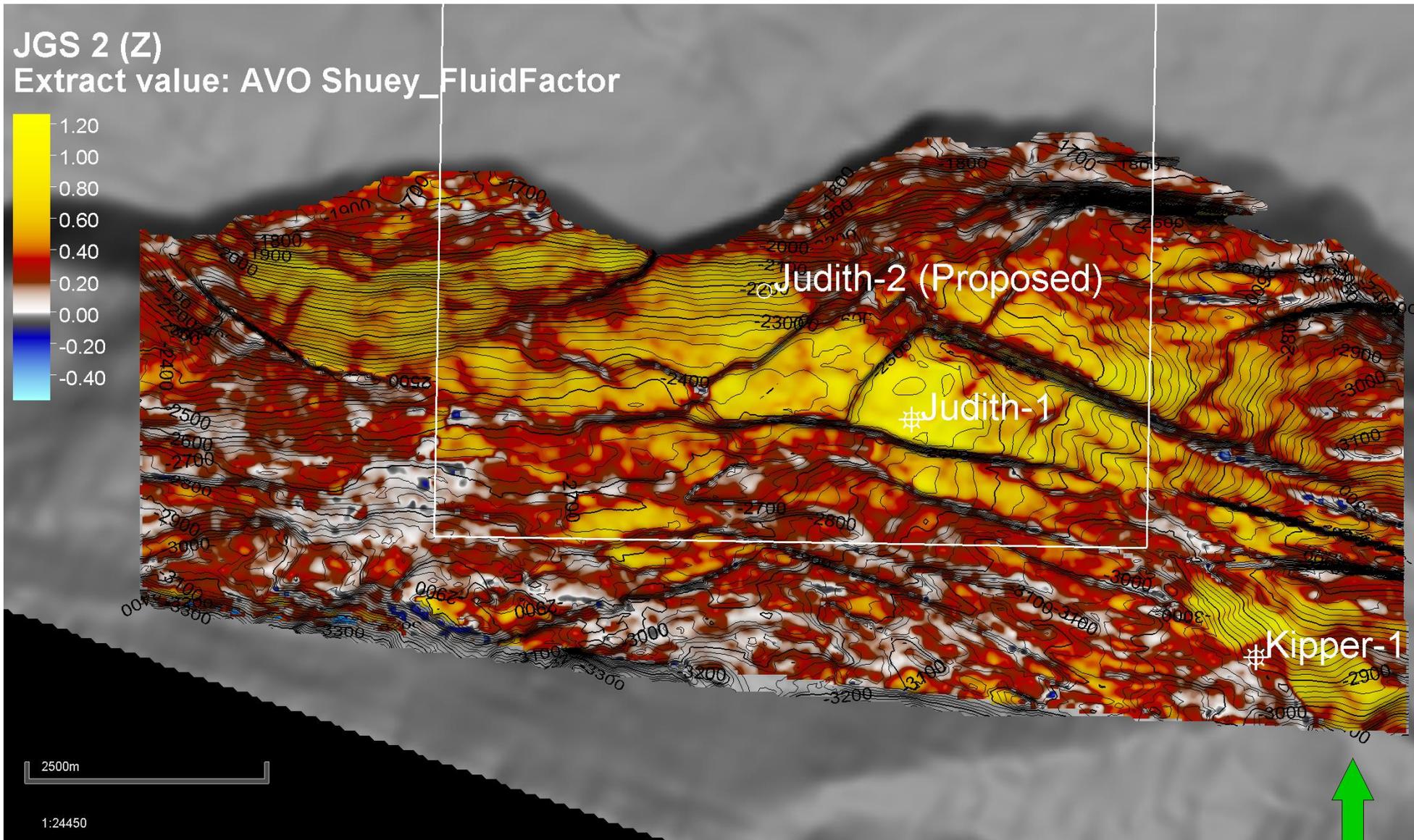
Judith-1 to Judith-2 Appraisal Well Location



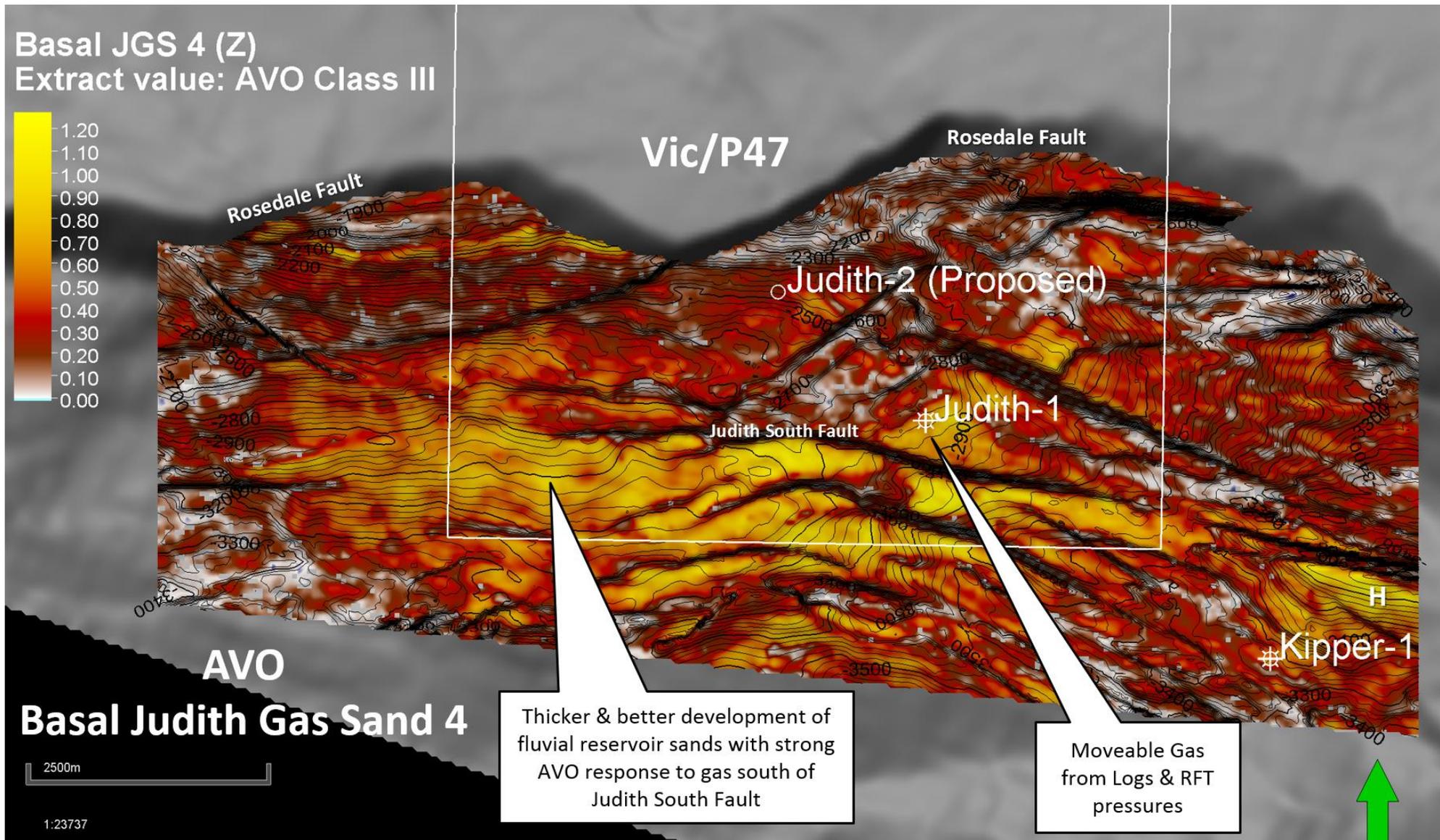
AVO Class III Judith Gas Sand 2



Shuey Fluid Factor Judith Gas Sand 2



AVO Class III Judith Gas Sand 4

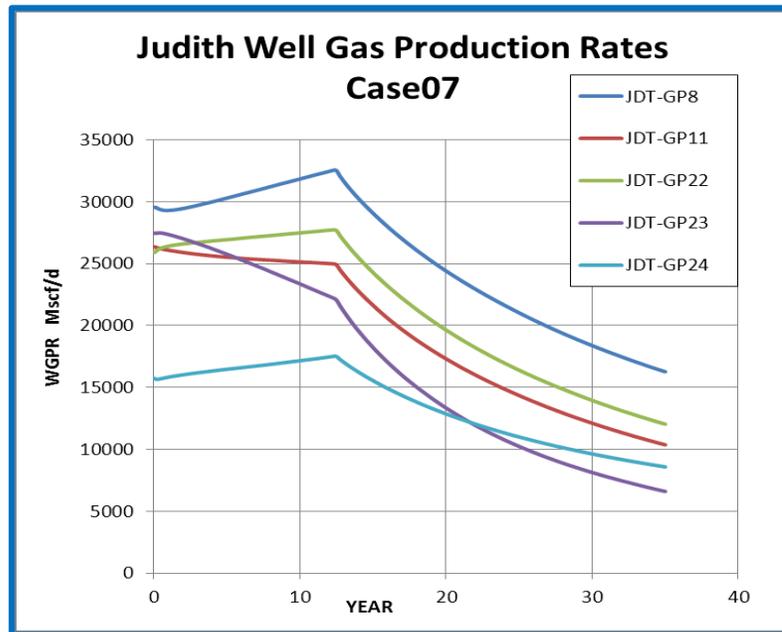


Development Case 7 (2022): Five wells produce at 125 MMSCFD for 12.3 years

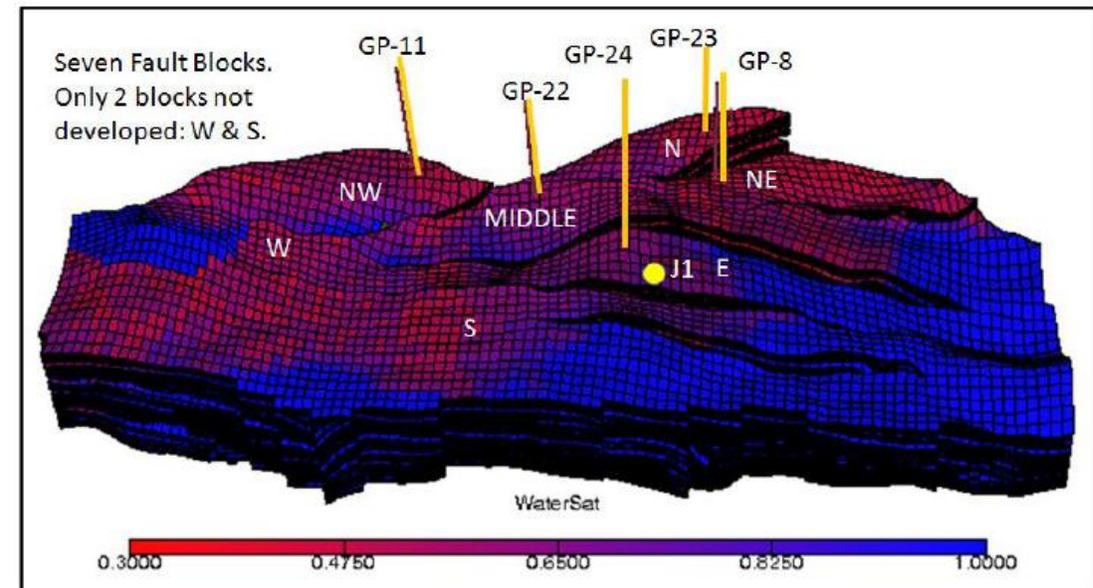
Five well 125 MMSCFD case produces 561 BCF over 12.3 years at 10.6% RF of GIP 5.312 Tcf (Isolated Block Model - 450m)

5 well 2022 3D-GEO dynamic model update:

- Reflects corrected gas saturations
 - Greater Judith GIP 5.312 Tcf
 - Wells sustain av. flow rate of 125 MMscfd for 12.3 years
 - Chokes gradually opened to produce 125 MMSCFD target gas rate in initial years as reservoir pressure declines
 - Individual wells forecast production at 15-32 MMSCFD
- Model production 561 Bscf in 12.3 years (FR 10.6%)
 - With natural decline no compression
 - Production life extended to 35 years
 - Produces 1,229 Bscf in 35 years (FR 23.1%)
 - Forecast to produce less than 150 bpd of water (predominantly water of condensation)
 - No wells in W and S blocks



Five Well Gas Production Forecast



Dynamic model grid showing well locations



Longtom demonstrates high flow rates from Emperor sands

Increases positive likelihood of high flow rates from Judith-2

Longtom-H3 (2006) flow tested

- L'tom 400 @ 30 MMscfd
- L'tom 300, 200 & 100 @ 77 MMscfd

Peak Longtom production flow rates of 56-77 MMscfd achieved from two horizontal wells:
Longtom-3H and Longtom-4H



Judith-2 appraisal well objectives:

1. Prove up more contingent resource

- a) Drilling of Judith-2 in the Central Block is expected to access and improve Contingent Resource by 430 BCF P50. When combined with existing 198 BCF P50 Contingent Resource from Judith-1 summing to 628 BCF > ~ 200 BCF MEFS threshold for a standalone development

2. Demonstrate reservoir producibility at this location via DST

3. Explore/test for the underlying Longtom 200 sands (below TD of original Judith-1)

- a) Longtom 200 sands, the principal producing sand of the Longtom Gas Field

4. Appraise/evaluate the Kipper / Golden Beach Sands (*recent additional objective*)

- MEFS: minimum economic field size
- Well management to be from well engineering and design through to supervision and execution. It will also manage the well health and safety and regulatory aspects.
- It is envisaged that AGR will be the wells management partner for the development wells.
- Opportunities exist to reduce well costs including rig of opportunity

P90 dry hole well cost (including well test planning), from rig EOIs, of U\$25m (semi-sub)

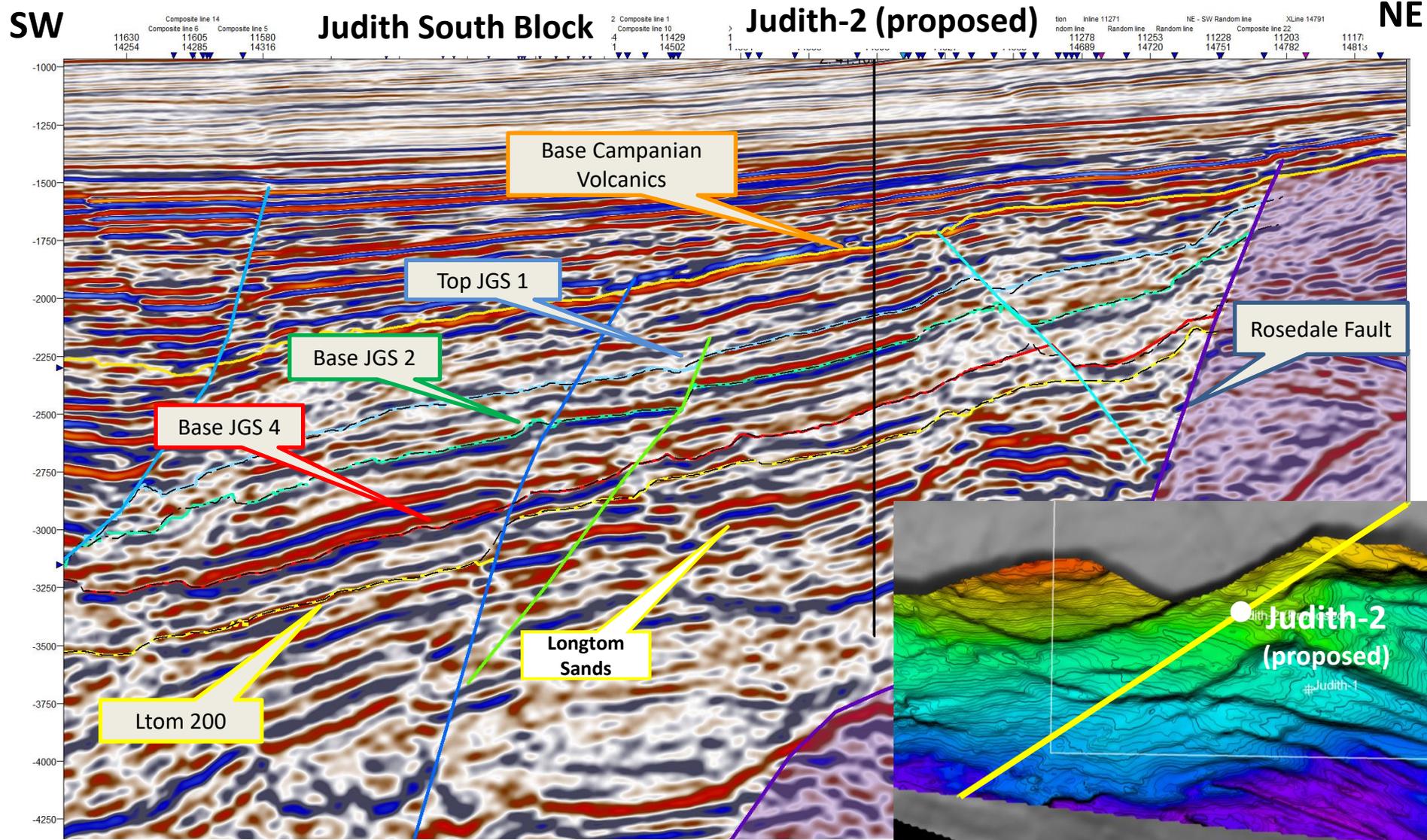
- Semi-sub or jack-up rig (70m water depth)
- 2024 planned spud
- Flow test in success case - estimated at US\$7m to \$21m

AGR is Emperor's Wells Management Partner

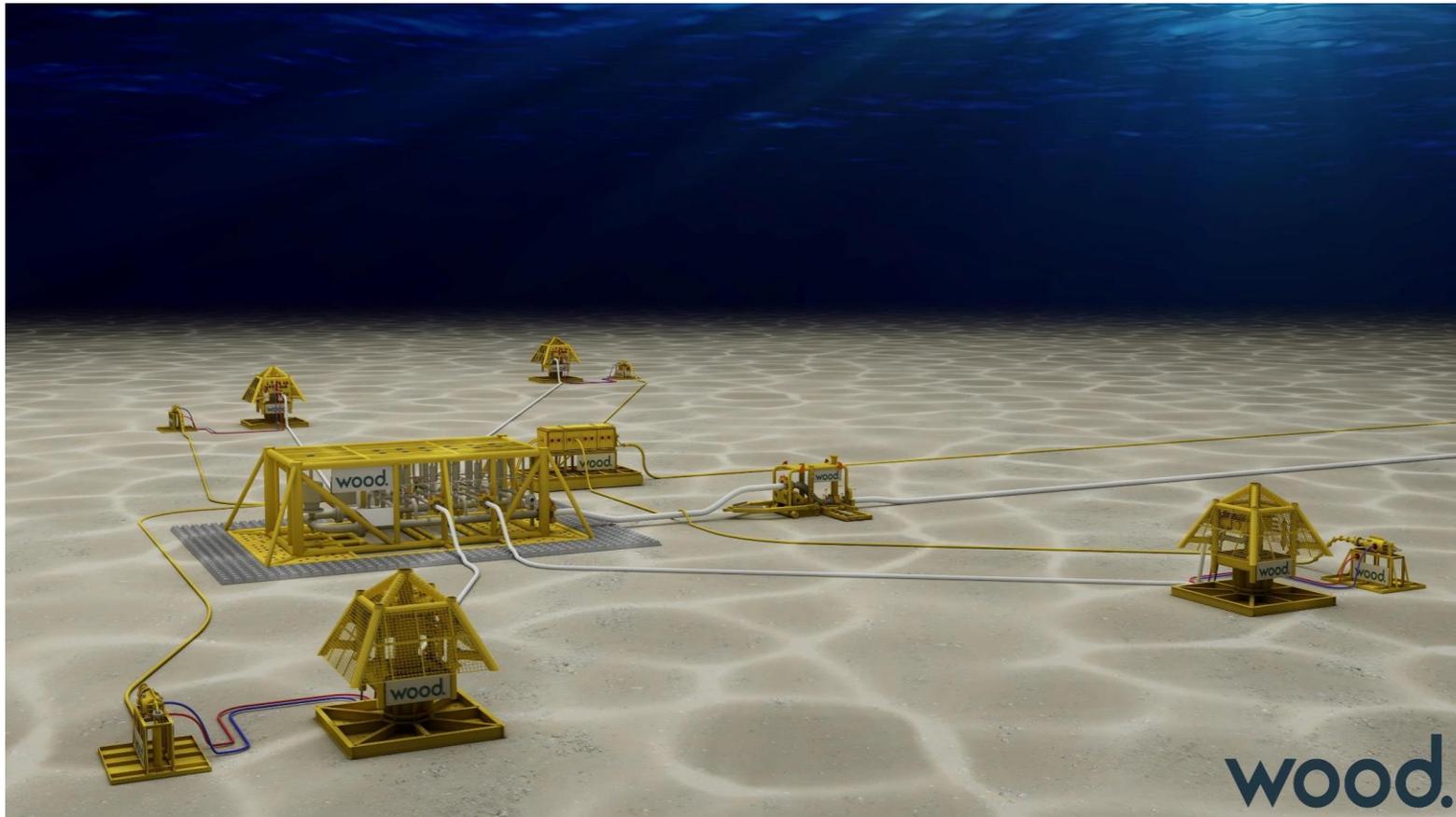
- AGR progressing Judith-2 well permitting process and will be responsible for well design, contracting and operations
- AGR has delivered over 550 well projects across six continents and has recorded zero loss time incidents.



Judith-2 Appraisal Well Seismic Cross-Section



Judith Gas Field Subsea Gas Gathering System

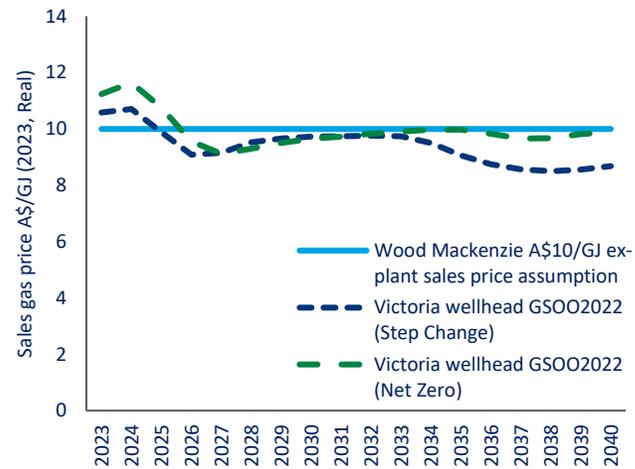


- 6 slot gathering manifold with fly leads to well heads
- Pre-FEED based on initial 4 well development subsea gas gathering system
- Connecting to dedicated 40km subsea pipeline to Orbost Gas Processing site



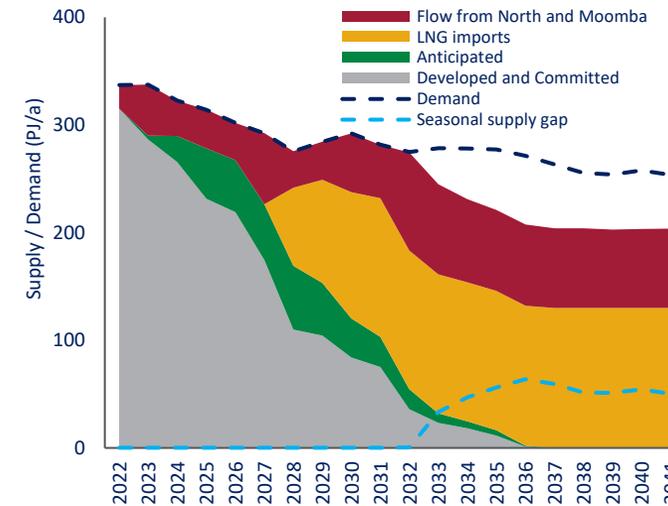
Project Economics: Gas Pricing

Sales Gas Price (Victoria ex-plant) forecast (A\$/GJ)



Source: Wood Mackenzie

AEMO Step Change South East Supply Demand



Source: Wood Mackenzie





Contact Details: Phil McNamara 0428409584
philmcnamara@outlook.com.au

Carl Dumbrell 0402 277 282
carl@emperorenergy.com.au