



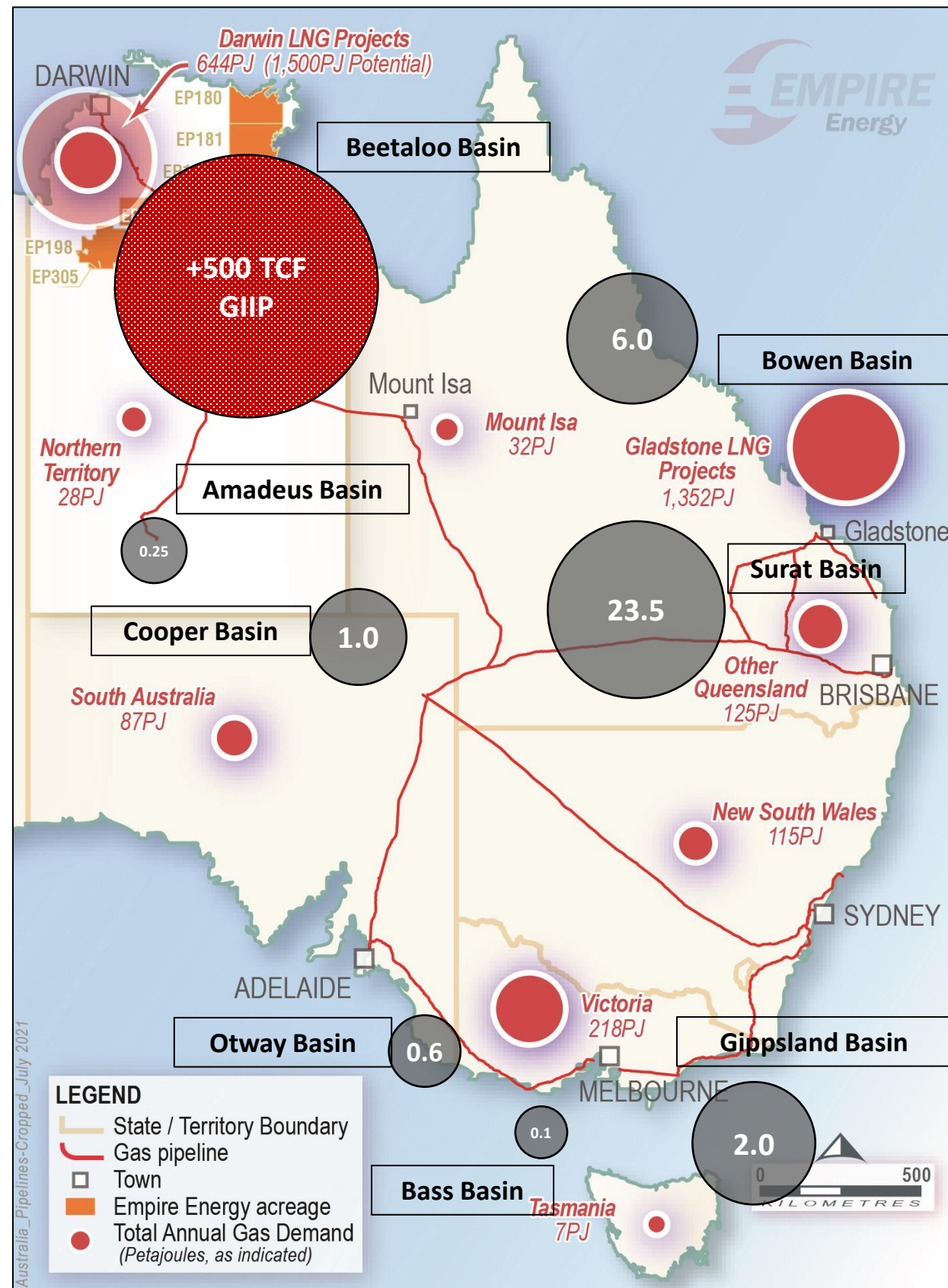
ASX:EEG

Empire Energy – Beetaloo Basin – the next major shale to LNG export province



NAPE Conference Houston Presentation – February 2023

The Beetaloo is Australia's largest Undeveloped Gas Resource



- Total potential prospective resources in the Velkerri B shale of between **50 Tcf and 100 Tcf** (one of five productive shale units) based on Government estimates of **500 Tcf** gas-in-place (assuming recovery factors of between 10% and 20%)
- Andrew Liveris, former Chairman of Dow Chemicals described the Beetaloo as “the **third-largest** shale **gas** deposit on the planet”*
- The Australian Federal Government, 14 January 2021: “The Beetaloo Sub-basin has the potential to rival the world’s biggest and best gas resources...”
- **Empire (100%) 2C Contingent Resource of 554 BCF gas and 3.5 MMBBLs liquids**
- **Empire (100%) P(50) Prospective Resource of 43 TCF gas and 797 MMBBLs liquids**

Source: 2P data sourced from ACCC's Gas inquiry January 2021 interim report (published February 2021)

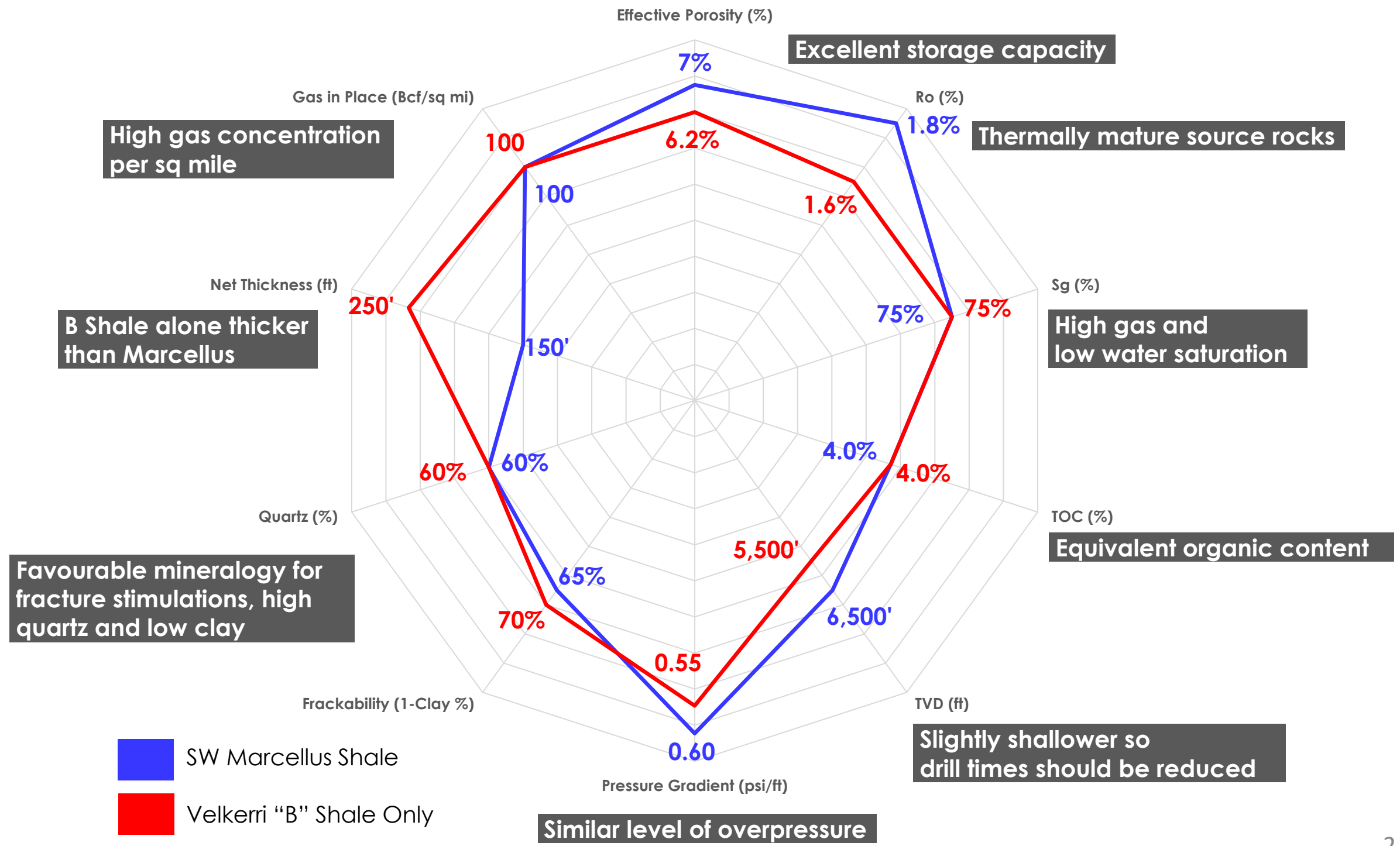
*The Australian newspaper- 23 May 2019

Velkerri Shale is analogous to the prolific Marcellus Shale



Data from Empire's wells, covering more than a million acres, confirms the Velkerri "B shale" reservoir properties are consistent with the prolific Marcellus Shale

- In addition to the 100 BCF/sq mile resource in the B Shale, **Empire Velkerri Shale stacked play exceeds 160 BCF/sq mile**
- The **Velkerri shales have consistently low CO₂ (<2 mole%)** and **have produced dry to high calorific gas**



Source: Empire Energy, EIA

How the Middle Velkerri matches the Marcellus Shale

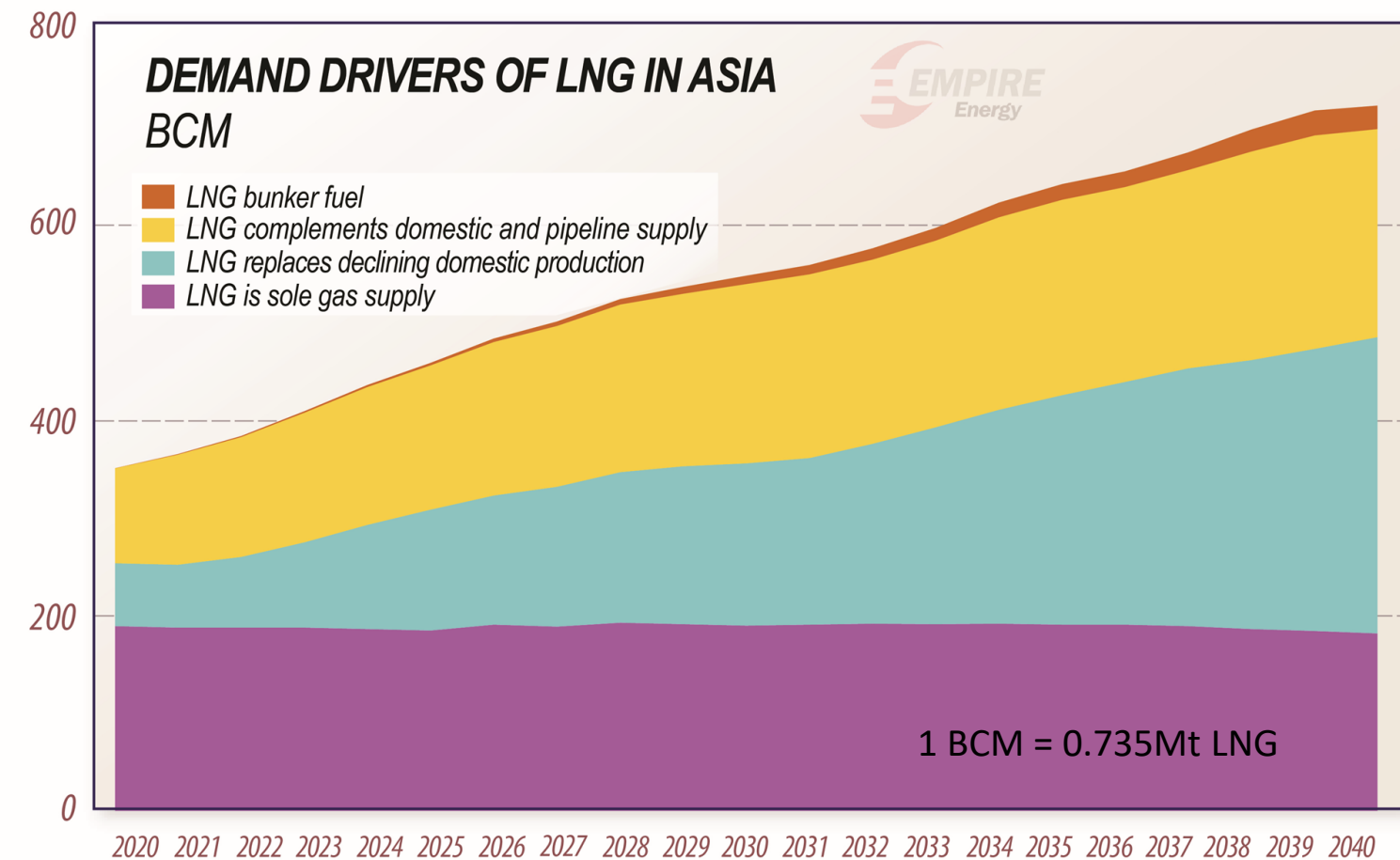
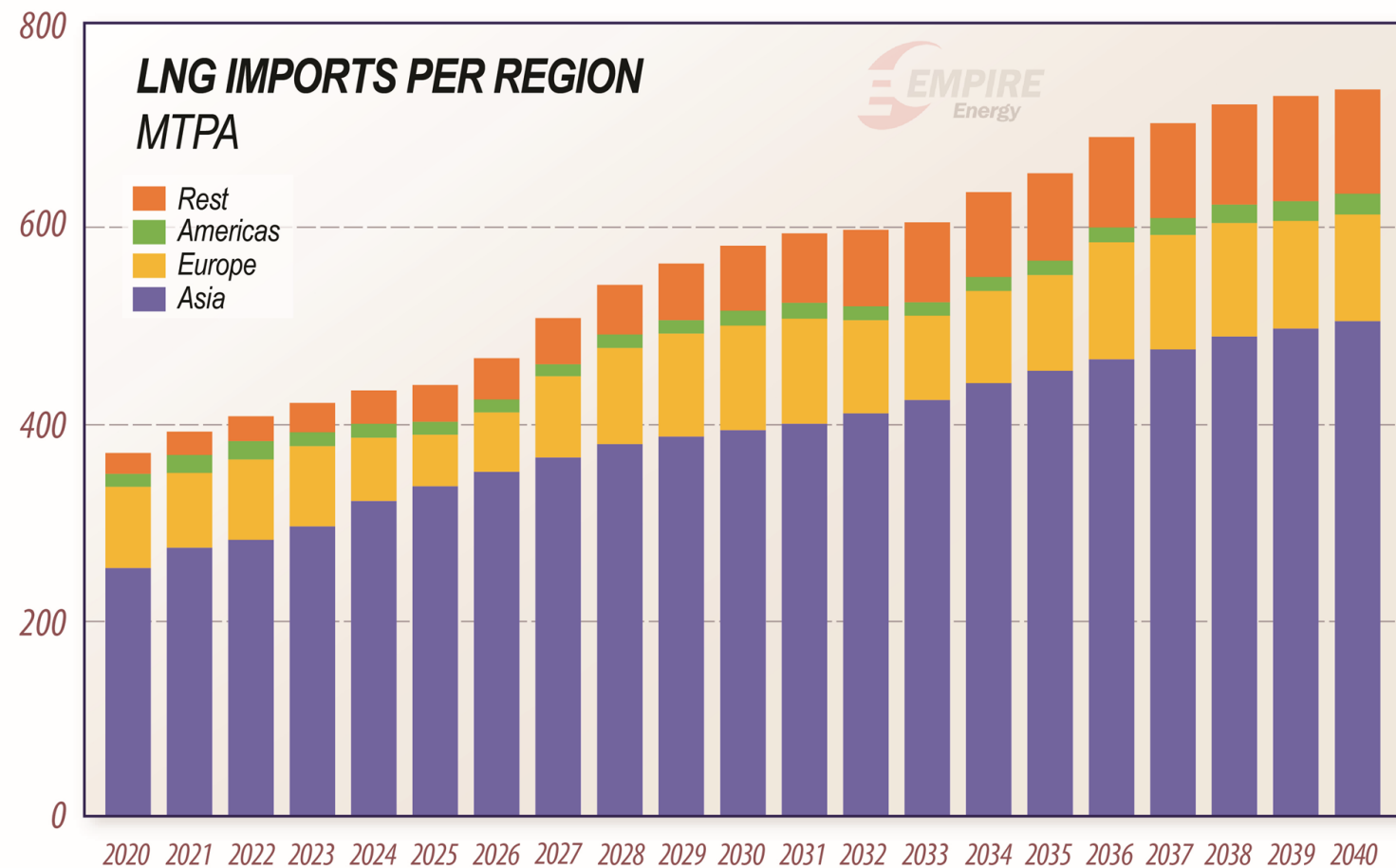


Empire's regional core and log data confirms gas in-place and deliverability properties for the Middle Velkerri Shale

Pathway to development

Gas-In-Place	Thickness	The middle Velkerri Shales show high lithological consistency and thickness <ul style="list-style-type: none">• Thickness intervals ranges from ~40 – 100+m for the B Shale alone
	TOC & Thermal Maturity	The middle Velkerri Total Organic Carbon (TOC) content is regionally consistent <ul style="list-style-type: none">• The B Shale averages 4.0% TOC, and thermal maturity ranges from oil to dry gas
	Storage Capacity HC Saturation	Excellent storage capacity and hydrocarbon (HC) saturations indicates large gas-in-place <ul style="list-style-type: none">• Effective porosities ranging from ~4 –8% with high hydrocarbon saturations
	Resource Concentration	High gas concentration equivalent to the Marcellus Shale <ul style="list-style-type: none">• Velkerri B Shale GIP from ~40 to over 100 BCF/sq mile - stacked A, B & C Shales can exceed 160 BCF/sq mile GIP
Deliverability	Mineralogy & Rock mechanics	Favourable mineralogy and rock mechanics for well treatments – shales are brittle and frackable <ul style="list-style-type: none">• Stimulations, core and logs confirm Velkerri shales have favourable fracture stimulation characteristics - high quartz (~60%) and low non-reactive clays (20 -35%)
	Overpressure	Shale reservoirs are consistently over-pressured to similar level as the Marcellus Shale <ul style="list-style-type: none">• DFIT's, pressurised core confirm the shales are over-pressured (0.51 – 0.59 psi/ft).
	Permeability	Good to excellent shale permeabilities <ul style="list-style-type: none">• DFITs indicates good permeability and is consistent with core data.

Asian LNG Demand Increasing Dramatically



Graphs extracted from: Global LNG Outlook – Shell LNG Outlook 2022

- Shell estimates global LNG demand will reach **700 million tonnes by 2040 (2021: 380mt)**, as demand for natural gas continues to grow strongly in Asia and gains further traction in powering hard-to-electrify sectors, tackling air quality concerns and meeting emissions targets
- Wael Sawan, Integrated Gas, Renewables and Energy Solutions at Shell said:

“As countries develop lower-carbon energy systems and pursue net-zero emissions goals, focusing on cleaner forms of gas and decarbonisation measures will help LNG to remain a reliable and flexible energy source for decades to come.”
- While natural gas accounts for about a **quarter of global electricity generation**, **half the total natural gas produced today is consumed in sectors other than power generation**

Government supporting the Beetaloo

NT Government has primary responsibility for regulation of the Beetaloo Basin Federal Labor Government is supportive of Beetaloo development

NT Government supports the development of the onshore gas industry

- **Territory Economic Reconstruction Commission** highlighted the critical role of gas
- NT's new Chief Minister Natasha Fyles has committed to implementing the Pepper Inquiry recommendations before year-end which will allow for the **award of production licences in 2023**

Beetaloo Cooperative Drilling Program

- **Executed grant agreements with the Federal Government for up to A\$19.4 million for three horizontal appraisal wells**
- A\$7.6 million cash received to date

Darwin Middle Arm Sustainable Development Precinct (supported by Beetaloo gas)

- A\$1.5 billion commitment made by both major parties during the election campaign to support expanded port infrastructure at Darwin
- **Includes A\$300 million for production of clean LNG and hydrogen; and A\$550 million for renewable energy supply, CCUS and other technologies**

Northern Australia Infrastructure Facility (NAIF)

- Energy/gas is a key focus sector of NAIF
- Total funding of A\$7 billion committed

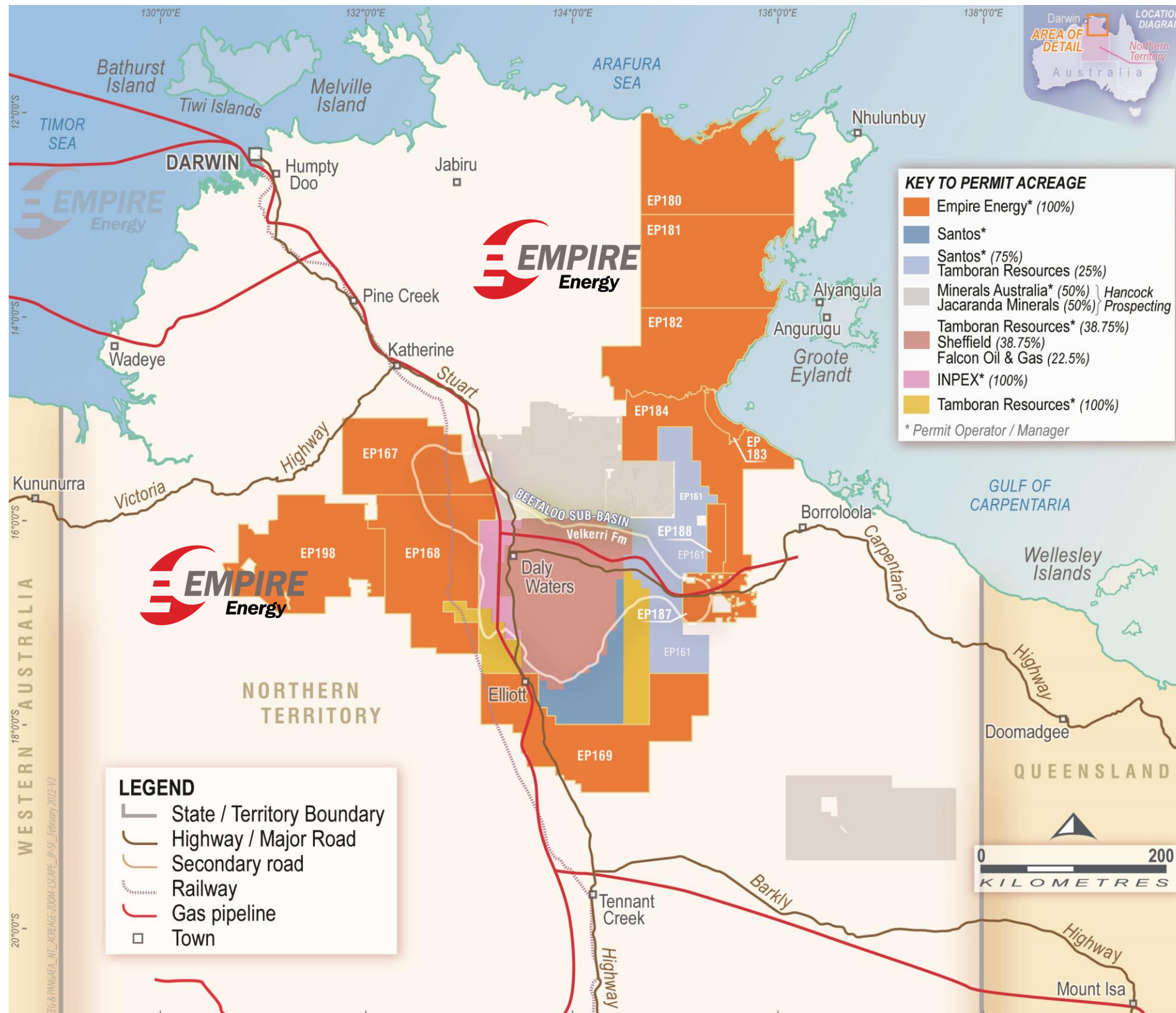
Nicole Manison (NT Deputy Chief Minister):
“There’s been a huge amount done by the other gas companies around the Beetaloo but when you have a look at the pace Empire’s going, all doing it within the rules, conditions and regulations but you can see it is advancing very well.”¹

1. NT News, “Empire building: Project on track with production timetable” dated 28 July 2022



L to R: Empire Managing Director, Alex Underwood, Empire Chair, Paul Espie and NT Deputy Chief Minister and Minister for Mining and Industry Hon. Nicole Manison

Empire's 28.9 million acre footprint



- All acreage is 100% owned and operated by Empire
- Empire is the largest net acreage holder in the Beetaloo
- Access to existing infrastructure: Stuart Highway, Darwin to Adelaide rail corridor and the Amadeus Gas Pipeline (connecting to the East via the Northern Gas Pipeline)

Prospective Resources (2U)

Gas	43 TCF
Liquids	797 MMBBLs
Gas Equivalent	47.8 TCFe

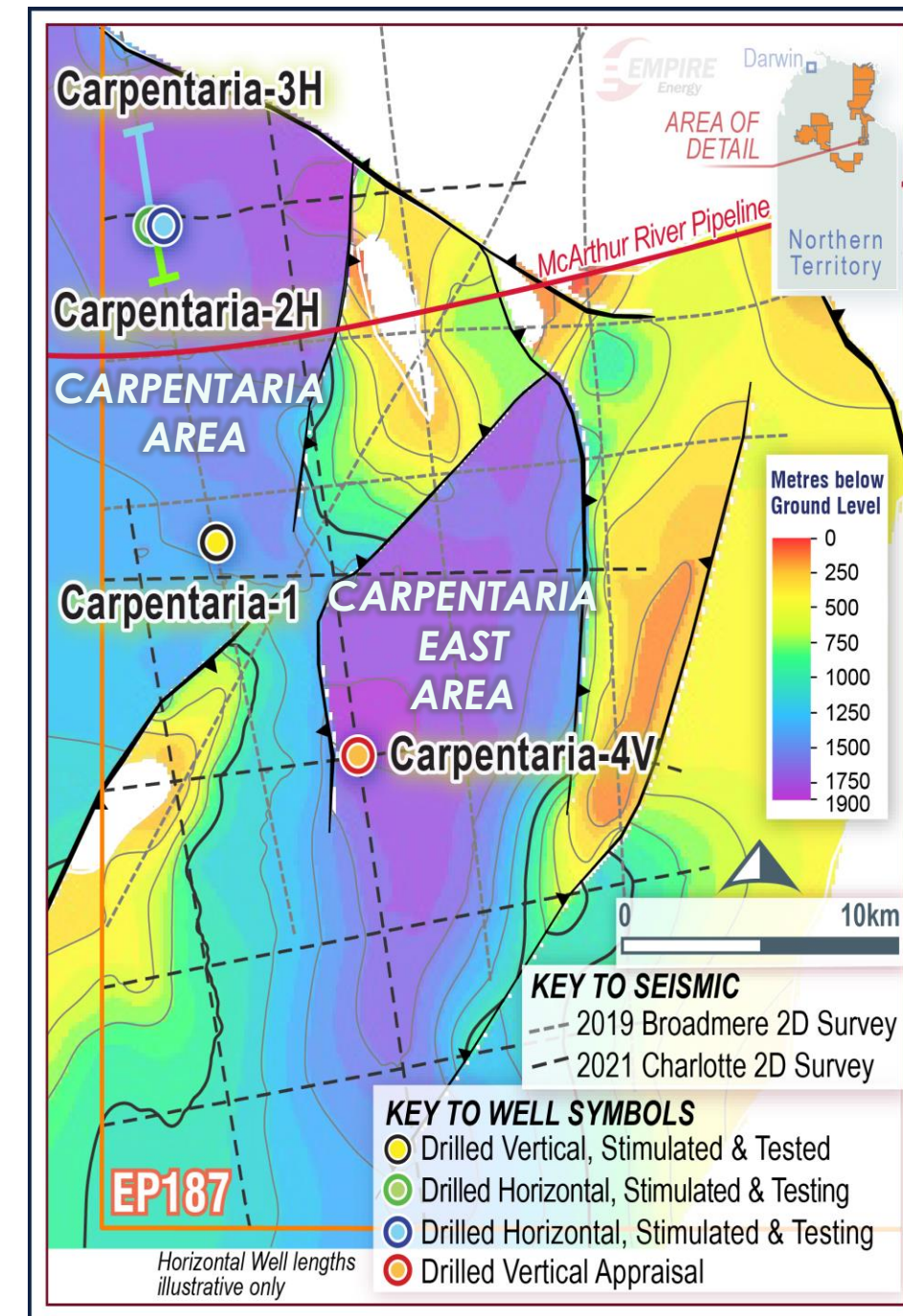
Contingent Resources (2C)

Gas	554 BCF
Liquids	3.5 MMBBLs
Gas Equivalent	575 BCFe

Exploration & Appraisal Campaign Successes To Date

Empire's systematic and scientific approach to evaluate and de-risk the Velkerri Shale play in EP187 has proved up a large resource in a cost-effective manner

- Acquired the Broadmere and Charlotte 2D Seismic surveys - mapping the **Velkerri shale at favorable depths over 111,000 acres** in the Carpentaria and Carpentaria East areas (2019 & 2021)
- Drilled **Carpentaria-1** which intersected **~1 km (3273 ft) of high calorific gas in the Velkerri Shale** – enhancing the economics of future production (Oct 2020)
 - **Completed a successful multistage vertical frac** across all four Velkerri shales (A, Intra A-B, B and C) with sustained flow to surface - **confirms stacked play**
 - Post-well analysis undertaken at W.D. Von Gonten & Co (Houston, Texas). NSAI (Houston, Texas) ongoing resource certifier
- **Approval granted** for drilling and stimulation of **up to 7 horizontal wells** (Oct 2021)
- **Carpentaria-2H B Shale horizontal appraisal drilling (927 m – 3040 ft) completed on time and budget (~A\$11.1 million)** (Oct 2021). **Successfully stimulated with 51-day EPT** (Aug 2022)
- **Carpentaria-3H**, including its 2,632 metre (8,635 ft) horizontal section (**longest drilled in the Beetaloo to date**) completed under time and budget (**~A\$11 million**) (Nov 2022)
- **Carpentaria-4V** to grow contingent resources, drilled for **A\$9.8 million** (Dec 2022)
- **Current EP187 2C Contingent Resource: 396 BCF** (NSAI engaged to provide an updated report in Q1 2023) and **EP187 P(50) Prospective Resource: ~4.3 TCF**
- **There are hundreds of drilling locations across Carpentaria and Carpentaria East fault blocks with potential to drill multiple wells from each pad to minimise surface disturbance**



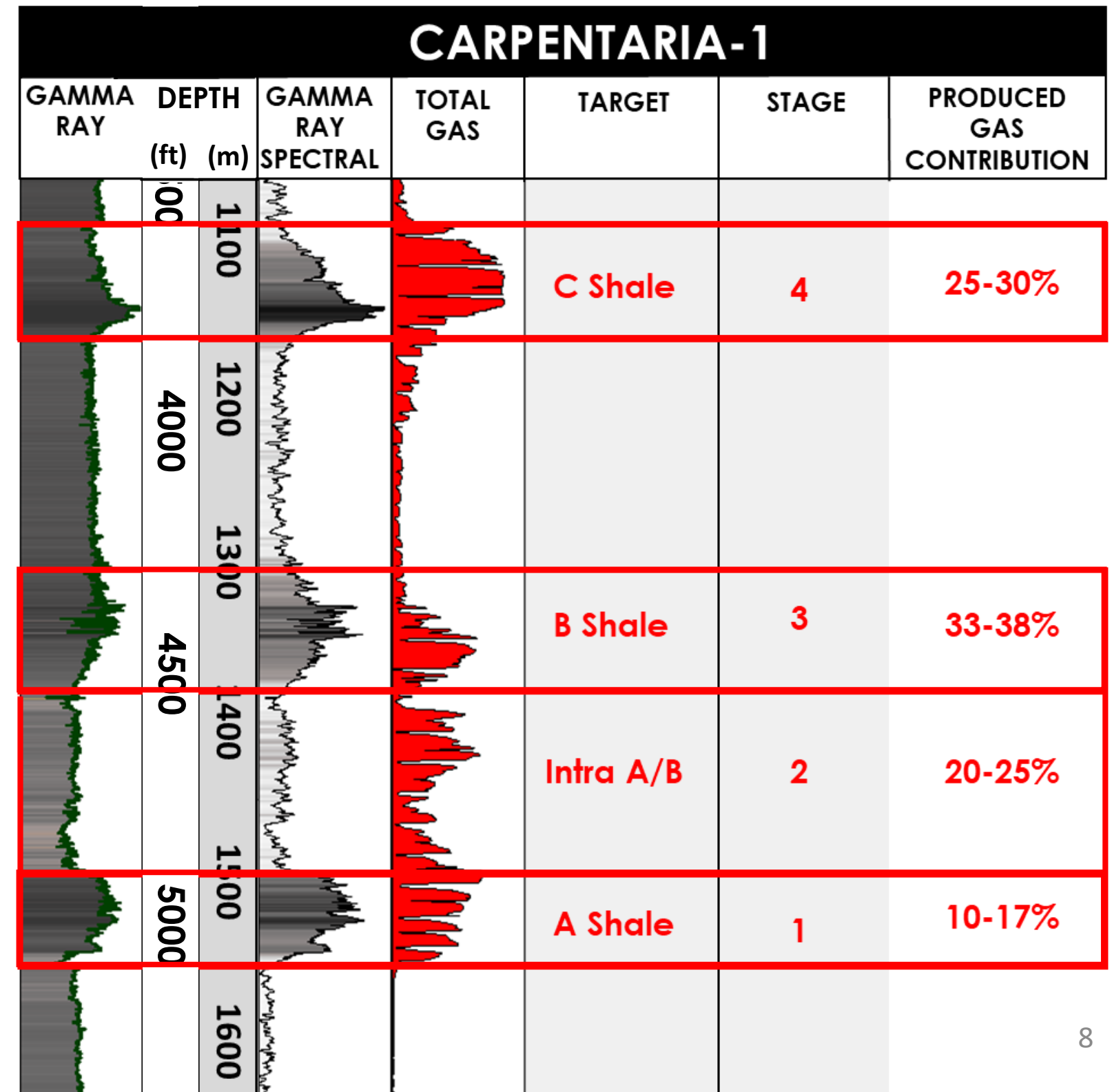
Carpentaria-1 Production Test Validates Stacked Play



Sustained flow to surface from all four zones confirms stacked play, with B Shale largest contributor

- Carpentaria-1 was drilled in late 2020
- Stimulated mid-2021
 - **Four stage vertical fracture stimulation and commingled flow test**
 - Produced **high calorific gas with low CO₂ (<1 mole%)**
- EPT phase 1
 - **Peak rate >1.6 mmscf/day**
 - **Average rate ~0.25 mmscf/d over 17-day test period**
 - Shut-in due to COVID for 2 ½ months
- EPT Phase 2
 - **Average rate ~0.364 mmscf/day over 10-days**

B Shale prioritized as initial target for horizontal well

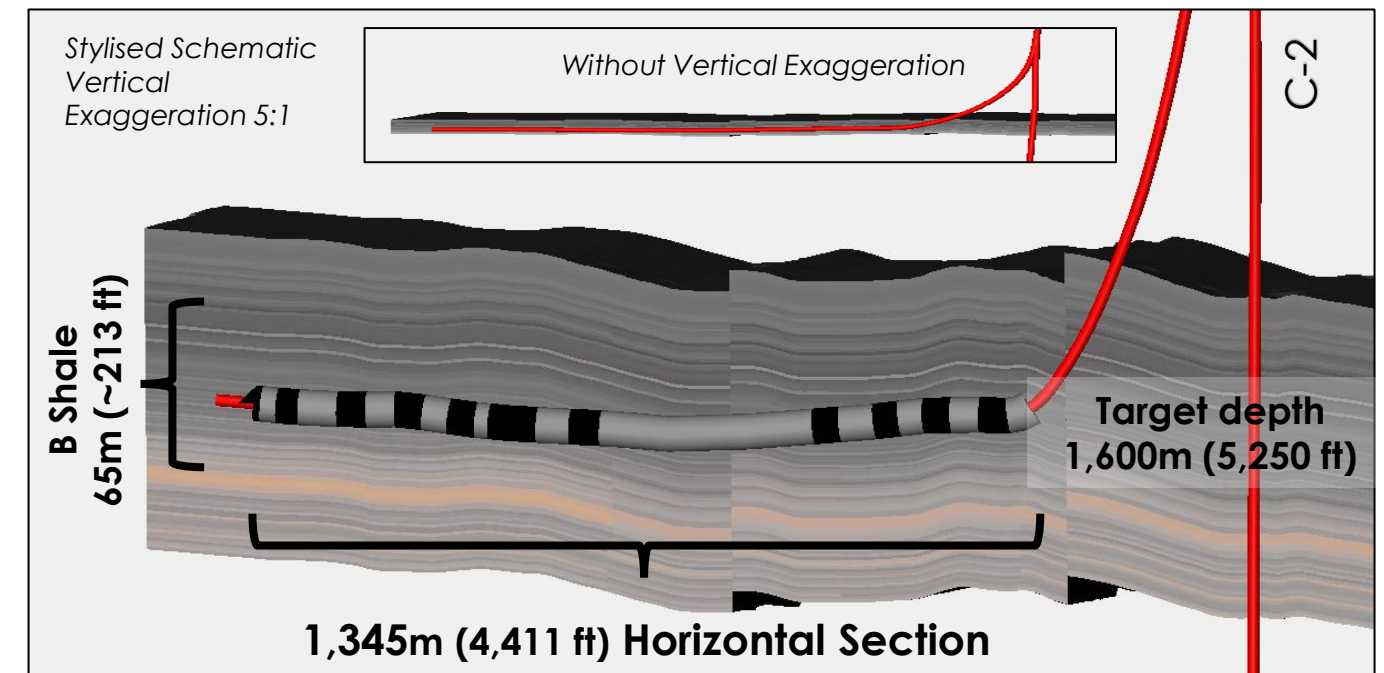


Empire's First Horizontal Well Flow Test A Success (100% EEG)



Carpentaria-2H is the fourth horizontal well in the basin, was drilled 100% within zone, and successfully flowed gas to surface from all 21 frac stages

- Carpentaria-2H was the largest horizontal well in the Beetaloo and the biggest frac in Australian history (21 stages)
- **Average 2.2 million standard cubic feet (mmscf) per day** sustained flow rate achieved over the first **51 days of flow testing from 927m (3,041 ft)** effective stimulated horizontal length
- **Normalized rate of 2.4 mmscf per day** per 1,000m of horizontal section
- **Peak rate of > 11 mmscf per day** achieved after a 2-day shut-in to change wellheads and monitor pressure build up following which the well returned to trend production rate as expected
- Carpentaria-2H is now shut-in temporarily to test whether 'soak time' may have a positive impact on long term performance as seen in other shale wells in the Beetaloo and the US
- Completed without the need for production tubing, well free-flowed through 4 ½" casing
- Gas composition data confirms significant methane and ethane contribution with **very low CO2 (0.88%)**

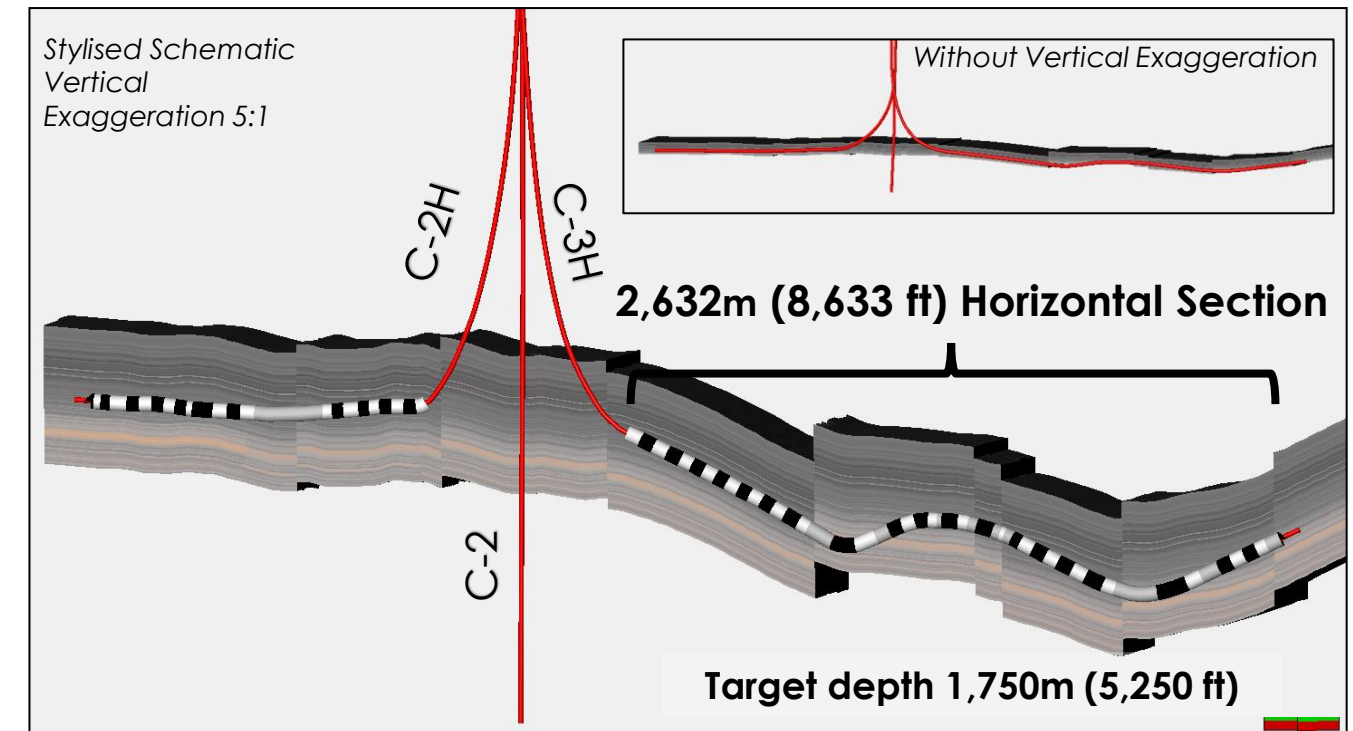


Carpentaria-2H flare

Record Breaking Carpentaria-3H Horizontal Well (100% EEG)

Carpentaria-3H is the longest horizontal shale well, and the largest frac job ever executed in Australia

- **Carpentaria-3H** drilled to **total depth of 4,460m (14,629 ft)** on time and under budget
- **Total horizontal lateral length of 2,632m (8,633 ft)**, with 2,374 m (7,786 ft) successfully placed within the target Velkerri B shale (**90% in zone**), with strong gas shows throughout the target zone
- Carpentaria-3H **successfully stimulated, significantly below budget**, executing all planned **40 stages across 1,989m (6,526 ft)**
- A total of 12.8 million lbs of proppant placed, averaged **319,000 lbs per stage (~2,000 lbs/ft)**. **Comparable to US Shale frac intensity**
- **Flow testing has commenced**



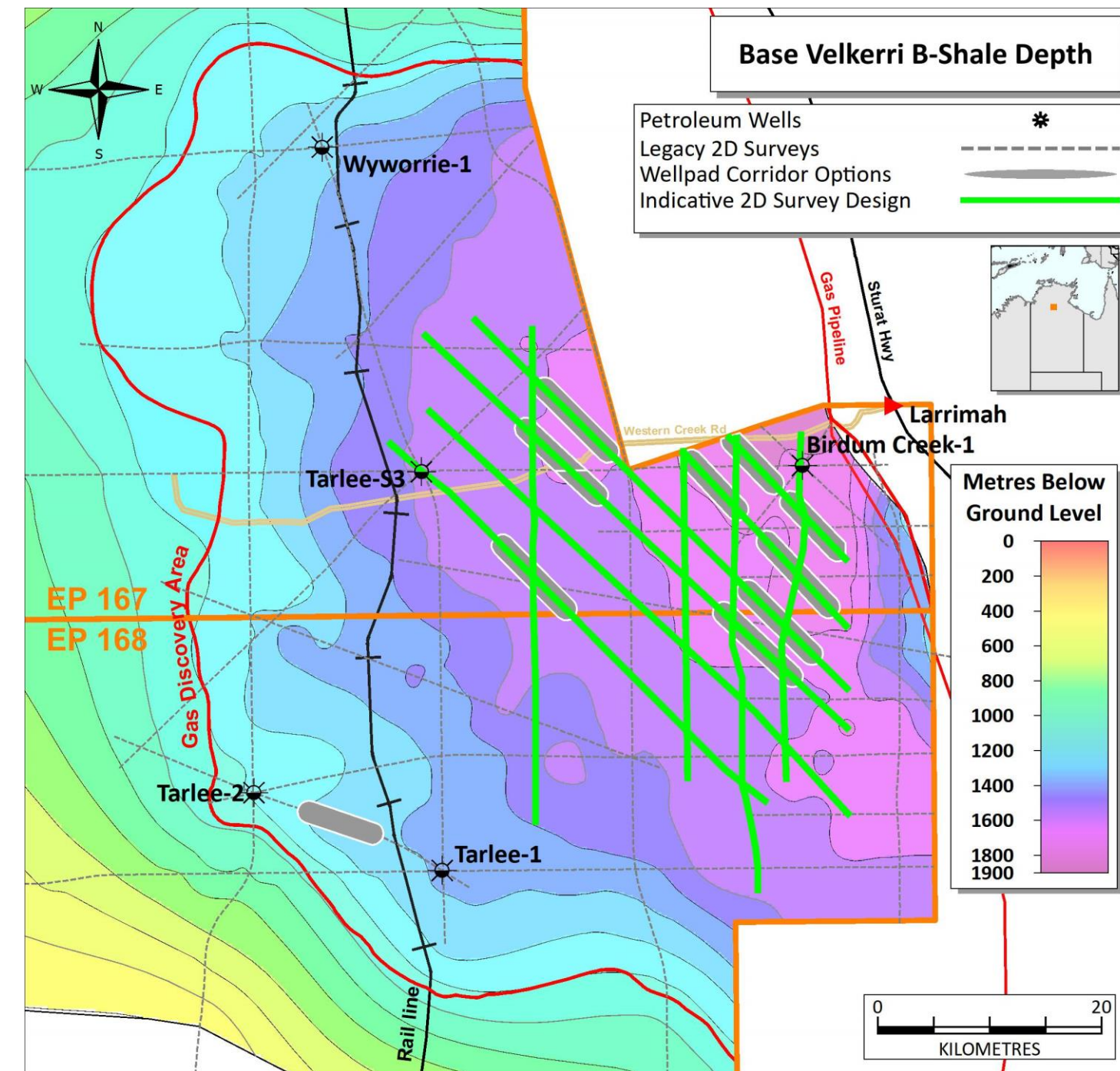
SLB 185 Rig drilling Carpentaria-3H in EP187

Western Beetaloo Multi-Year Work Program Clearances Underway



Clearances are underway for a multi-year seismic, drilling and stimulation program across the >1 million acre Velkerri Shale play in EP167 / 168

- **Planned appraisal activities are focused within the Gas Discovery Area where A\$110 million spent to date**, (acquired by Empire for A\$57 million primarily in equity during 2021)
- **Strategically located near gas pipeline, highway and rail line**
- **Environmental approvals submitted** to the Regulator for:
 - The acquisition of up to **~380 km in-fill 2D seismic** orientated for future horizontal wells
 - Clearance for **drilling, stimulation and flow testing of up to six horizontal wells** on six well pad locations
- **Land access agreements executed with pastoralists**
- The approvals have the potential to accommodate numerous production wells in a future commercial development scenario
- Current **2C** Contingent Resource of **157.5 BCF** (+3.5 MMBBLs)
- Current **3C** Contingent Resource of **415.8 BCF** (+14.1 MMBBLs)
- Current P(50) Prospective Resource of **~28 TCF and 764 MMBBLs**
- **2D seismic acquisition and the drilling of a horizontal appraisal well planned in 2023**



EP 167 and EP 168 100% EEG

A Globally Significant Resource Position



Shale Unit	Contingent Resources (Liquids)			Contingent Resources (Gas)			Prospective Resources (Liquids)			Prospective Resources (Gas)		
	Low Estimate (1C)	Best Estimate (2C)	High Estimate (3C)	Low Estimate (1C)	Best Estimate (2C)	High Estimate (3C)	Low Estimate (1U)	Best Estimate (2U)	High Estimate (3U)	Low Estimate (1U)	Best Estimate (2U)	High Estimate (3U)
	<i>mmbbls</i>	<i>mmbbls</i>	<i>mmbbls</i>	<i>bcf</i>	<i>bcf</i>	<i>bcf</i>	<i>mmbbls</i>	<i>mmbbls</i>	<i>mmbbls</i>	<i>bcf</i>	<i>bcf</i>	<i>bcf</i>
Kyalla	0.8	3.0	11.1	0.8	4.5	27.7	88	378	1,571	184	857	4,891
Mid Velkerri	0.1	0.5	3.0	138	549	1,680	82	419	2,062	10,744	31,018	89,217
Barney Creek	-	-	-	-	-	-	-	-	-	1,633	11,053	45,380
Total	0.9	3.5	14.1	138.8	553.5	1,707.7	170	797	3,633	12,561	42,928	139,488

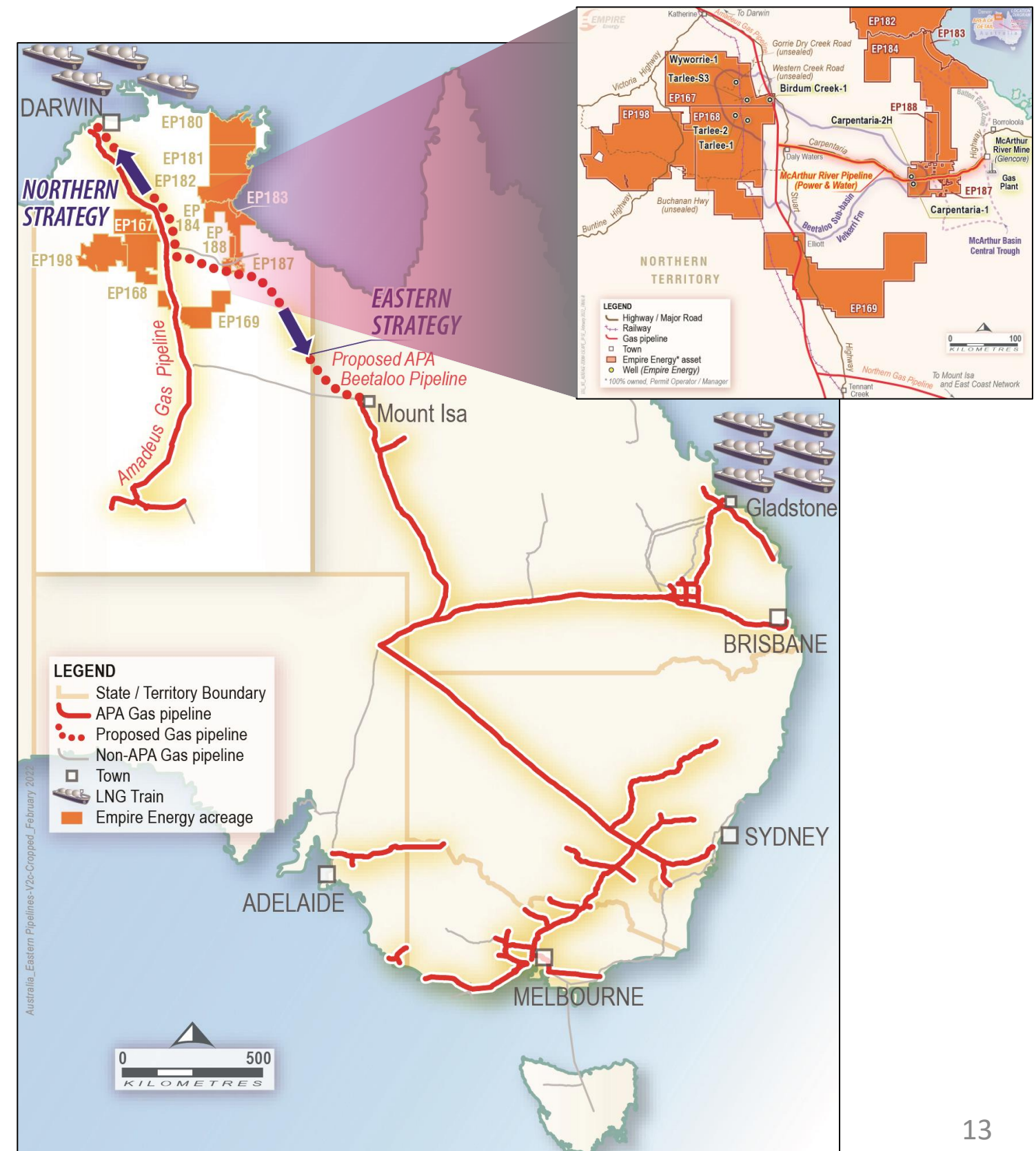
Empire 2C Contingent Resource of **554 BCF gas** and **3.5 MMBBLs liquids**

Empire P(50) Prospective Resource of **43 TCF gas** and **797 MMBBLs liquids**

- NSAI engaged to prepare an updated resource report in Q1 2023

Access to Market & Customers

- **APA Group (ASX: APA)** and Empire have executed an MOU to explore opportunities for the development of Beetaloo mid-stream infrastructure including gas and liquids gathering, processing and pipelines
- APA will support Empire to get production to market, promptly, leveraging its existing network of gas transmission infrastructure
- ‘Northern Strategy’ will support the development of a gas-fed manufacturing industry and LNG export expansion at Darwin
- ‘Eastern Strategy’ including a new Beetaloo Pipeline to Mount Isa will allow Beetaloo gas to be transported to all Australian east coast domestic markets (Wallumbilla, Brisbane, Sydney and Melbourne) and LNG export through Gladstone
- Empire has also executed an MOU with NT Government owned utility **Power and Water Corporation** to facilitate negotiations for potential gas sales and transportation arrangements utilising the McArthur River Pipeline
- Empire’s infrastructure plans do not contemplate material investment of Empire shareholder funds in pipeline development



Pathway to Production



EXPLORATION

2021

- ✓ 2C Contingent Resource: 575 BCFe
- ✓ 2U Prospective Resources: ~48 TCFe
- ✓ Gas Sales & Transportation: APA Group and Power and Water Corporation MoUs Executed

APPRAISAL

2022

- ✓ Fracture stimulate and flow test Carpentaria-2H: to optimise design
- ✓ Carpentaria-3H: optimise flow rates by applying data acquired from Carpentaria-2H
- ✓ Carpentaria-4V: to grow EP187 Contingent Resources

DEVELOPMENT PLANNING

2023

- Execute gas sales agreements
- Obtain government approvals: NT Petroleum Production Licence over portion of EP187
- Initiate Field Development Planning: including engineering, financial analysis etc
- Arrange financing for pilot (Macquarie Bank credit facility already in place)

EARLY DEVELOPMENT / PRODUCTION

**2024 -
2025**

- Initial field development (~25 TJ/d)
- Book reserves
- Commence production and generate cashflow
- Plan for larger scale development to feed East Coast and LNG export markets



<https://empireenergygroup.net/>

ASX:EEG

Alex Underwood
Managing Director
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Appendix 1: Corporate Snapshot

Capital Structure

Shares on issue ¹	773.1M
Share price	A\$0.205
Market cap	A\$158.5m
Net (debt ²) / cash	~A\$13.8m
Enterprise value	~A\$144.7m
Cash at bank³	~A\$21.3m
Total Available Liquidity³	~A\$31.3m

- **Board of Directors owns 21.0%**⁴
- **Top 20 shareholders own 61.3%**
- **Top 50 shareholders own 70.3%**

ASX Share Price



Top Shareholders

Pangaea Resources	18.1%
Elphinstone Group	8.3%
Global Energy and Resources	4.2%
Sheffield Holdings (USA)	4.1%
Energy and Minerals Group (USA)	3.4%
Macquarie Bank	3.4%

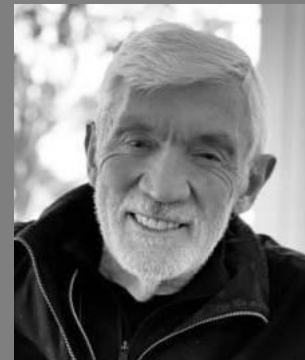
1. Empire has 78.9m unlisted options on issue with an average exercise price of ~A\$0.39 per share. In addition, there are 18.7m Share Rights on issue to members of the management team and Board. Most of the Share Rights have performance hurdles tied to total shareholder return.

2. Empire has a US\$7.5 million debt facility (drawn to US\$5.30 million) with Macquarie Bank maturing in September 2024 which is secured against the Company's USA gas production assets. Under new management, total debt has been reduced by over 80% since 2018. On 30 November 2022 also announced it had established a A\$10 million revolving credit facility and A\$5 million performance bonding facility with Macquarie Bank. This facility is undrawn

3. As at 24 January 2023

4. Board shareholding includes Mr Paul Fudge (Pangaea) and vested Performance, Restricted and Service Rights

Appendix 2: Empire's Board of Directors



Paul Espie AO

Chairman & Non-Executive Director

- Founding principal of Pacific Road Capital, a resources investing manager of private equity funds
- Former Chairman of Oxiana Ltd during the development of the Sepon copper/gold project in Laos
- Former Chairman of Cobar Mines Pty Limited after a management buyout
- Former Head of Bank of America operations in Australia, New Zealand and PNG

Alex Underwood

Managing Director

- Associate Director Energy Markets Division of Macquarie Bank Limited (Sydney and Singapore)
- Director Natural Resources Division of Commonwealth Bank of Australia (Singapore)
- Financial Analyst BHP Billiton Petroleum (Perth)
- Experience investing debt and equity in the upstream oil and gas sector and identification of value creation opportunities for upstream oil and gas development / production assets

Peter Cleary

Non-Executive Director

- Distinguished 29-year career representing Santos, the North West Shelf Venturers and BP in Asia. His executive career was in LNG, pipeline gas and chemicals operations
- Member of the Executive Committee of the Australia Japan Business Co-operation Committee and the Australia Korea Business Council

Paul Fudge

Non-Executive Director

- Controlling shareholder of Pangaea
- Significant investment experience in onshore Australian oil & gas, including being an early mover in the Queensland Coal Seam Gas industry and in the Beetaloo Sub-Basin
- Paul brings significant business and investment experience to the Board of Empire

Jacqui Clarke

Alternate Director to Paul Fudge

- 30 years professional services experience, with over 15 years as a Partner at Deloitte.
- Jacqui is a Chartered Accountant and Fellow of the Institute of Chartered Accountants, Graduate of AICD (Australian Institute of Company Directors), Chartered Tax Advisor and Justice of the Peace

Louis Rozman

Non-Executive Director

- Former Managing Director of CH4 Gas which merged with Arrow Energy and later acquired by PetroChina and Shell
- Founding principal of Pacific Road Capital, a resources investing manager of private equity funds
- Former Chief Operating Officer of AurionGold Limited
- Chairman of the VALMIN Code Committee for the AusIMM and Australian Institute of Geoscientists

Prof. John Warburton

Non-Executive Director

- Highly regarded petroleum geoscientist experienced in big fields
- 30 years technical & leadership experience in leading E&P companies including BP, LASMO-Eni and Oil Search
- Previously Chief of Geoscience & Exploration Excellence for Oil Search

Appendix 3: Industry leading Management



Robin Polson

Chief Financial Officer

- Robin has been deeply involved in the development of the Australian east coast gas industry for over 20 years.
- Extensive knowledge of the gas industry in the Northern Territory gas markets in particular; with strong relationships and experience working with key gas industry financiers, analysts, producers, transport providers, customers, and relevant regulatory bodies.
- Ex-Deloitte Partner
- Almost 30 years with big four accounting firms (Deloitte and PwC) on three continents, covering audit, corporate finance, M&A, valuation and strategy

Kylie Arizabaleta

Financial Controller

- Longest serving Empire management team member
- Prior to joining the Company, Kylie worked in the Audit division of Chartered Accounting firms as a senior and lead external auditor where she gained broad experience in Audit and other Assurance Services

Ben Johnston

**Vice President Business Development
Company Secretary**

- Director, Natural Resources & Energy, Commonwealth Bank of Australia
- Vice President, RBC Capital Markets energy investment banking team
- Chartered Accountant and MBA (Australian Graduate School of Management)
- Energy sector specialist across M&A, ECM and debt / project finance transactions

Sonia Harvey

VP Community and Government Relations

- Based in Darwin
- Joined Empire from the Energy Club NT where she was the founder and served as Chief Executive. In this role, she built deep relationships across Empire's stakeholder groups including with Northern Territory Government and Shadow Ministers and Department leaders, service providers and peers in our industry.
- These relationships will be invaluable to Empire as we progress through to development and seek to raise our profile in the Northern Territory.

Charles Dack

Environmental and Compliance Reporting Officer

- Environmental manager with qualifications in environmental engineering and environmental law.
- Extensive experience as the environmental regulator of the petroleum industry for the NT Government
- +6 years at the Northern Territory Government, employed as the lead Environmental Engineer for the NT Government to regulate the upstream petroleum industry.

Dr Alex Bruce

Chief Geoscientist

- PhD from the University of New South Wales (2001) in machine learning applications to geology
- 20 years experience across onshore and offshore projects from exploration to development and conventional and unconventional oil & gas
- Has held similar positions with other ASX oil & gas mid-caps including Drillsearch (acquired by Beach), AWE (now Mitsui), Roc Oil (now FOSUN) and Bridgeport Energy (part of New Hope Corporation)

Daniela Garrad

Geophysicist

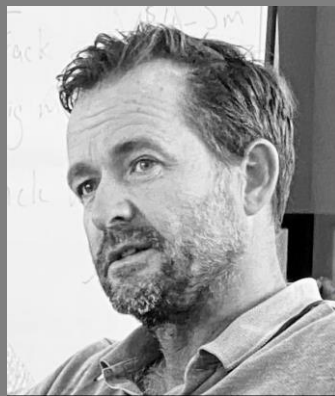
- Over 35 years' experience with international and Australasian projects, including everything from basin scale regional studies, exploration and detailed field evaluation and development
- Started as a seismic interpreter with Esso Australia, and since worked in technical roles for diverse companies ranging from minnows, mid-caps to majors, most recently with Oil Search Alaska.
- Special interests and expertise in structural geology and sequence stratigraphy in both carbonate and clastic sedimentary systems.
- Holds a BSc(Hons) from The University of Newcastle and is a member of PESA, the AAPG and the EAGE

Todd Hoffman

Consultant Geoscientist

- Over 15 years experience across onshore conventional and unconventional oil and gas exploration and appraisal projects, including geoscience operations
- More than 12 years working on Proterozoic shales in the Beetaloo and McArthur Basins
- Involved in large CSG and shale discoveries in the Queensland and Northern Territory
- Previous roles with privately held Pangaea Resources

Appendix 4: Industry leading Operating Team & Consulting Support



Dr Simon Hann

Principal Engineer

- Founding partner of inGauge and a well engineering professional with over twenty years' operational experience including conventional oil and gas, geothermal, HPHT, and coal seam gas drilling and completions.
- Fourteen years' management experience with Santos, Woodside and Shell including roles as Operations Manager, Drilling Team Leader, Drilling and Completions Manager and Production Manager;

Qualifications

- PhD Materials Science University of Queensland, 1998
- Masters of Engineering Science, Qualifier University of Queensland, 1993
- Bachelor of Engineering, Manufacturing and Materials, University of Queensland, 1992
- Shell International Exploration & Production (SIEP) Round I and Round II Well Engineering Competency Certification SIEP



Kelvin Wuttke

Principal Engineer

- Over 24 years of industry experience ranging from conventional onshore oil & gas to CSG and international offshore operations at Santos and Chevron.
- Technical expertise includes drilling & completions design, workovers, well testing, artificial lift, pipelines and surface facilities, across conventional and CSG environments.
- Experience includes managing combined drilling, completion and stimulation projects, remediation workovers, snubbing, fracture stimulation, underbalanced operations, and a wide variety of artificial lift projects.

Qualifications

- Registered Professional Engineer of Queensland, Mechanical & Petroleum
- Chartered Professional Engineer (MIE Aust CP Eng), Mechanical
- MBA, Queensland University of Technology, 2003
- Bachelor of Engineering, Mechanical, University of South Australia, 1992



Jordan Bunning

Principal Engineer

- Founding member of inGauge. Over 17 years' operational experience at Santos, Oil Search, Roc Oil and Origin in complex well execution and project management, this includes projects in conventional oil and gas, HPHT, coal seam gas and deep water bores.
- Jordan has experience in roles such as Drilling Manager, Drilling Team Leader, Senior Drilling Engineer and Drilling & Completion Engineer.
- Has been the lead in some of inGauge Energy's most successful projects including as in situ Drilling Manager for Westside Corporation, Comet Ridge and most recently Empire Energy's Northern Territory Carpentaria 1 well.

Qualifications

- Bachelor of Engineering, Petroleum Engineer (Hons), University of New South Wales, 2003



Jon Bennett

Project & Construction Manager

- Jon has 25 years operational experience, including twelve years management experience at Santos in roles such as Pre-Development Manager, Construction Manager, Civil Construction Manager and several management roles in large scale Agriculture.
- Jon is an experienced professional with a strong focus on business outcomes. Offering experience in planning, design, and construction of gathering, power, well-pad, civil and other CSG facilities. Proven strengths in business and project management and driving efficiencies through innovation and simplification over a range of industries.
- In his management roles Jon has proudly achieved and maintained industry leading EHS performance across operations.



Daniel Kalinin

Stimulation Consultant

- 28 years of international experience in Russia, Turkmenistan, Kazakhstan, Mexico, the Middle East, China, and Australia.
- 20 years Schlumberger career included starting several new locations in Russia, business development in Turkmenistan & Uzbekistan, project engineer at Karachaganak, G&G/stimulation support for an integrated well construction project in Mexico
- Unconventional experience includes shale & tight gas in Saudi Arabia, Kuwait, Bahrain, Oman, China, and various basins in Australia. He has designed the fracturing stimulation of the maiden horizontal Velkerri discovery well.
- Degrees in Geology, Economics; post-grad Integrated Reservoir Management from IFP & Imperial College; ResEng program at Tulsa University. Holds several patents and published a few SPE technical papers.



NETHERLAND, SEWELL & ASSOCIATES, INC.

WORLDWIDE PETROLEUM CONSULTANTS



W.D. Von Gonten & Co. Petroleum Engineering

Appendix 5: Pathway to Development in the Beetaloo Basin



EEG is progressing towards LNG-scale production

	2020	2021	2022	2023	2024	2025+	
UPSTREAM	<p>CARP-1 PAD</p> <p>1 x Vertical Well (Carpentaria-1) ✓</p>	<p>CARP-1 PAD</p> <p>✓ 1 x Vertical Frack (Carpentaria-1)</p> <p>CARP-2 PAD</p> <p>✓ 1 x Horizontal Well (Carpentaria-2H)</p> <p>✓ 2D Seismic</p>	<p>CARP-2 PAD</p> <p>✓ 1 x Horizontal Frack (Carpentaria-2H)¹</p> <p>✓ 1 x Horizontal Well + Frack (Carpentaria-3H)</p> <p>CARP-4 PAD</p> <p>✓ 1 x Vertical Well (Carpentaria-4V)</p>	<p>Planning and engineering work in preparedness for FID of a pilot project late 2023 / 2024</p>	<p>3 to 4 New Drilling Pads</p> <p>2+ continuous rigs</p> <p>10+ Horizontals</p>		<p>500 – 700+ mmcf/d target production</p>
PROCESSING FACILITIES				<p>Liquids Stripping</p> <p>Gas Compression & Treatment</p>		<p>Central processing facility</p> <p>Gathering network</p> <p>Additional compression and treatment</p> <p>LNG processing</p>	
COMMERCIALISATION OPTIONS		<p>Memoranda of Understanding</p> <p>✓ (APA Group / Power and Water Corp)</p> <p></p>		<p>Northern Domestic Gas Markets</p> <p>(e.g. Mines, Power Stations, Darwin, Power and Water Corp, etc.)</p> <p></p>	<p>East Coast LNG / Domestic (via Amadeus Gas Pipeline, New Beetaloo Pipeline to Mt Isa)</p> <p>LNG export ex-Darwin (APA upgrade)</p>		
MIDSTREAM				<p>Existing (Amadeus Gas Pipeline, McArthur River Pipeline)</p> <p></p>	<p>Beetaloo Shared Infrastructure</p> <p>Owned by infrastructure builder and operator</p> <p>Tariff paid by users, with to be a foundation shipper </p>		
FUNDING			<p>Cash on Hand / R&D Rebates / Beetaloo Cooperative Drilling Program Grants</p>	<p>R&D Rebates / Beetaloo Cooperative Drilling Program Grants</p>	<p>Farmout / Project Finance [?]</p>	<p>Project Finance [?]</p>	
	2020	2021	2022	2023	2024	2025+	

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