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decisions with confidence

The Beetaloo Basin in Perspective

Australia's Vaca Muerta o Perro Muerto?

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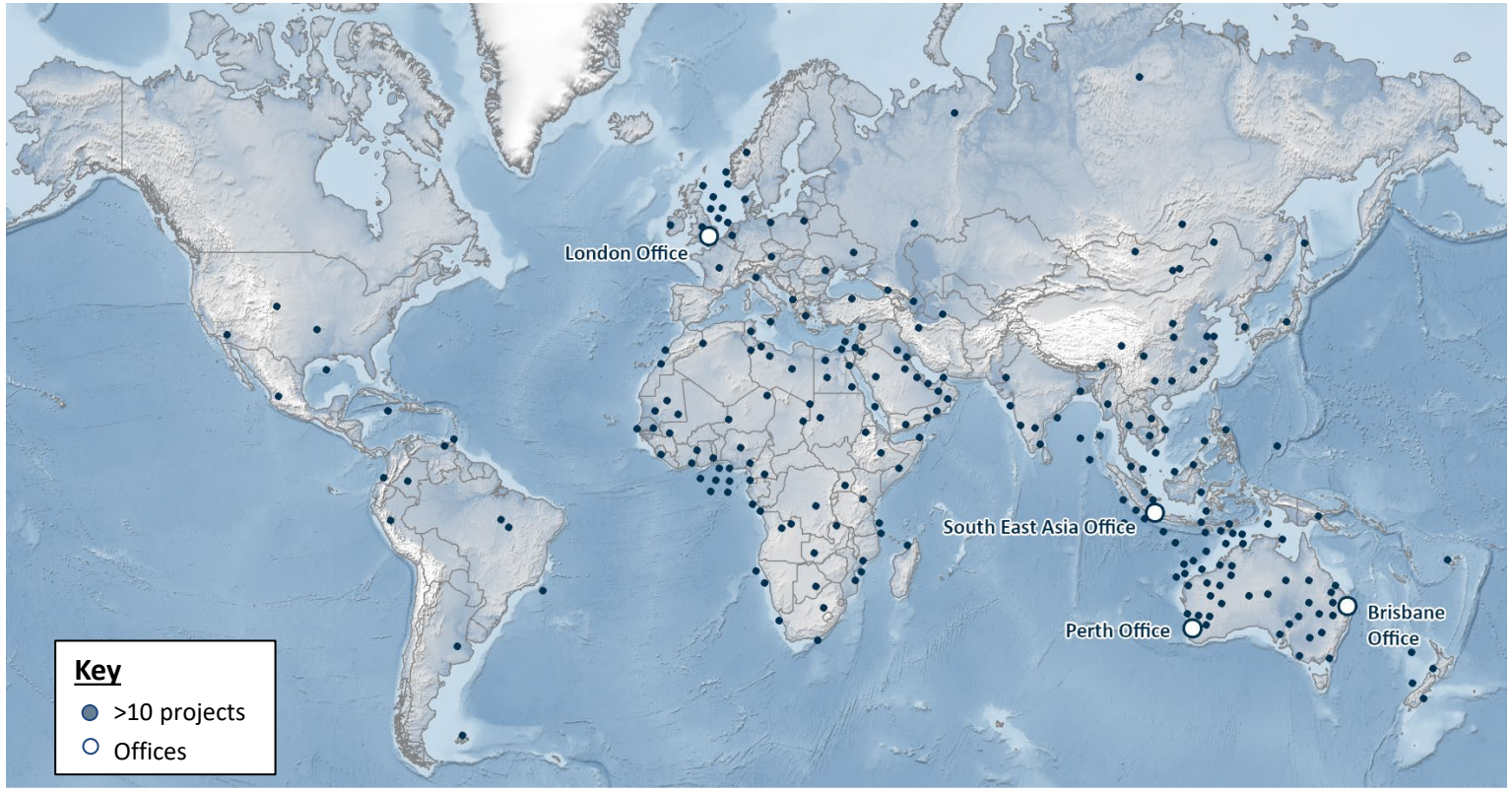

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RISC provides independent, insightful and impartial advice to our clients across a range of services

Due Diligence	*Identifying critical issues and creating value*	Reserves and Resources	*Audit, Assessment and Evaluation of resources*	Independent Technical and Expert Reports	*Independent, comprehensive and impartial advice*
Technical Advice	*Revealing opportunities and creating value*	Commercial and Strategic Advice	*Helping responsible investment and development*	Expert Witness	*Helping resolve differences of opinion*
Energy Transition	*Pathfinding the route to low emissions energy*	Environmental Social and Governance	*Helping responsible investment and development*	Acquisitions and Divestments	*Guiding the transaction processes*

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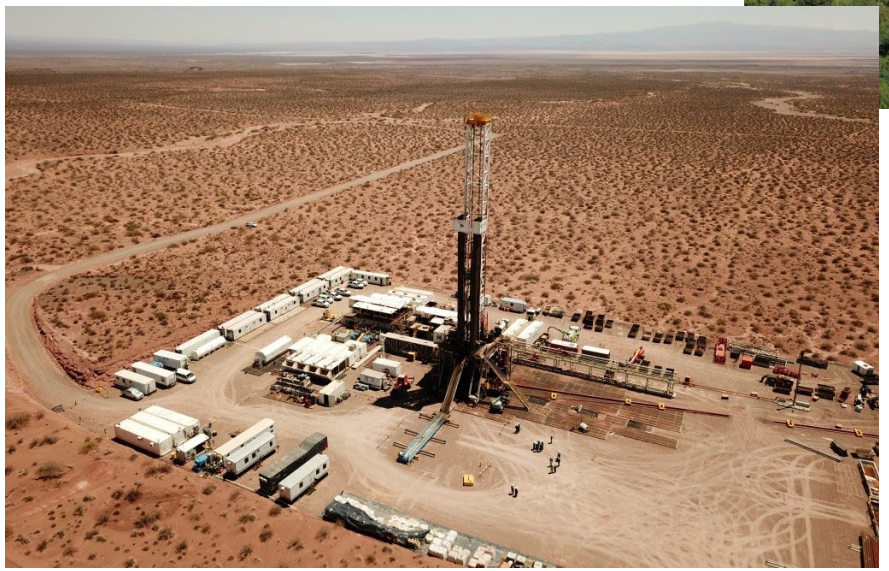
Current Landscapes

North Patagonia, Argentina



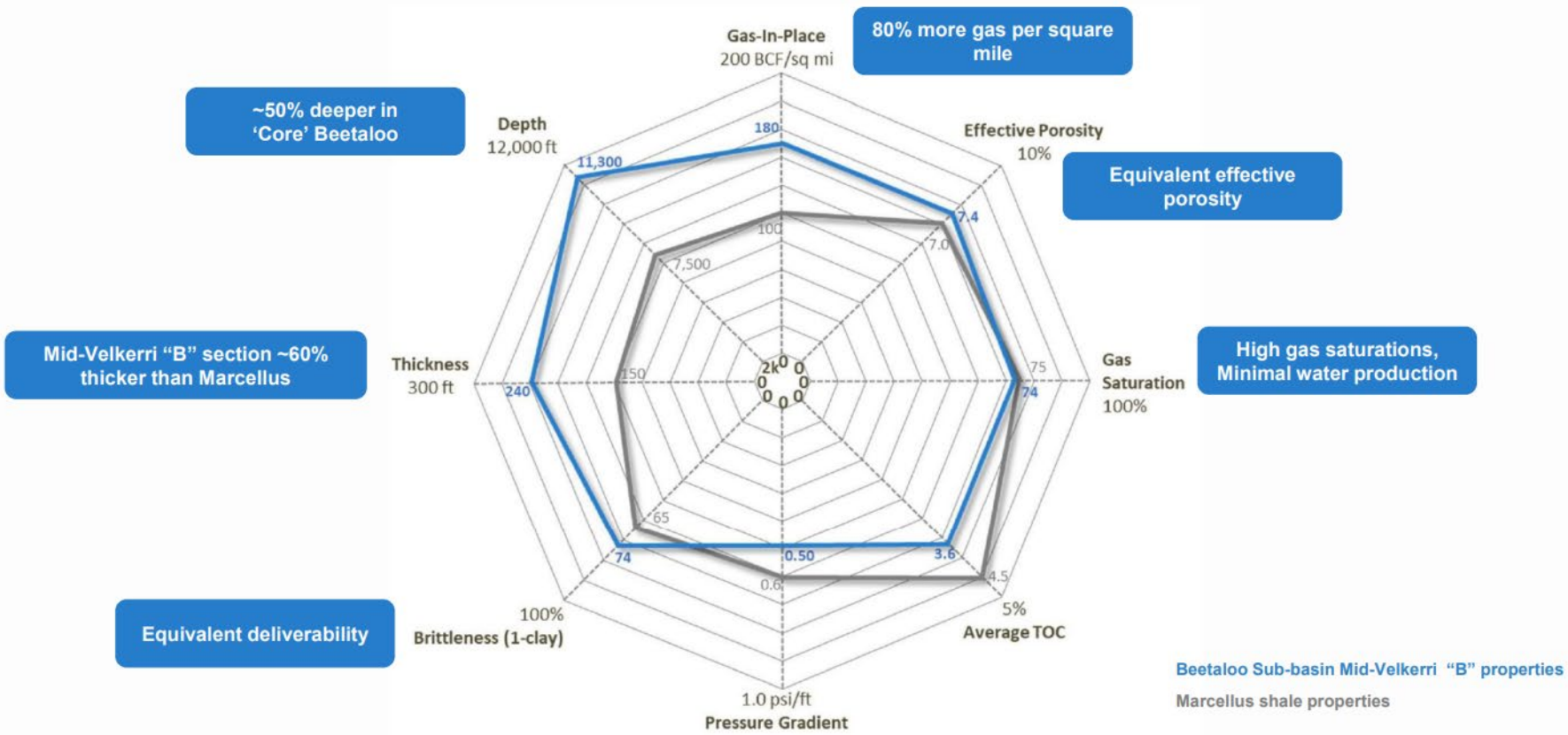
Pennsylvania, USA

Northern Territory, Australia

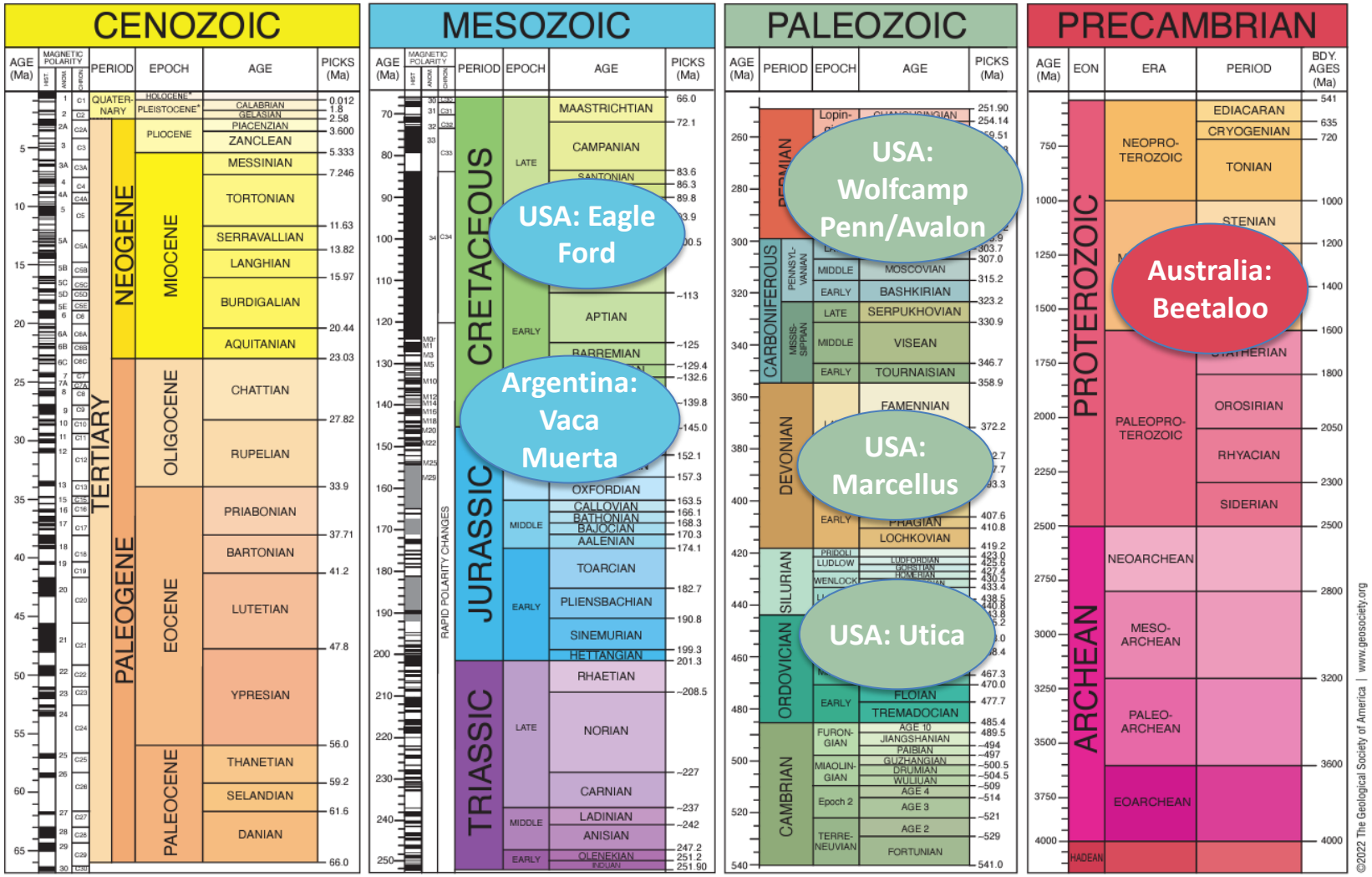
There have been a lot of positive comparisons between the Beetaloo and the Marcellus mainly around the geology and gas in place quantities

Mid-Velkerri "B" shale superior rock properties compared to Marcellus shale

High productivity potential with original gas in place equivalent to three stacked Marcellus shale plays



How similar are the rocks?

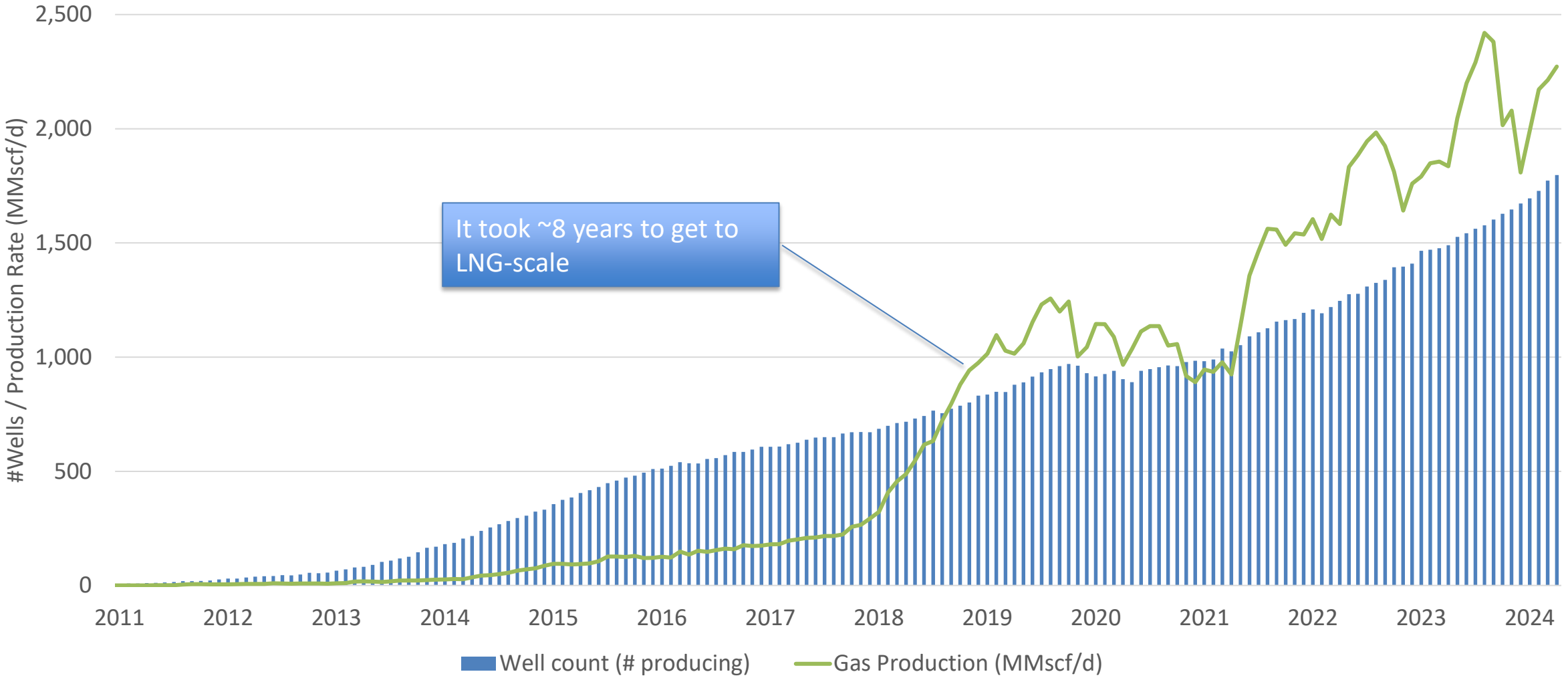


Some other similarities and differences

- The Beetaloo is unique amongst Shale developments as it has no history of conventional (or any) production

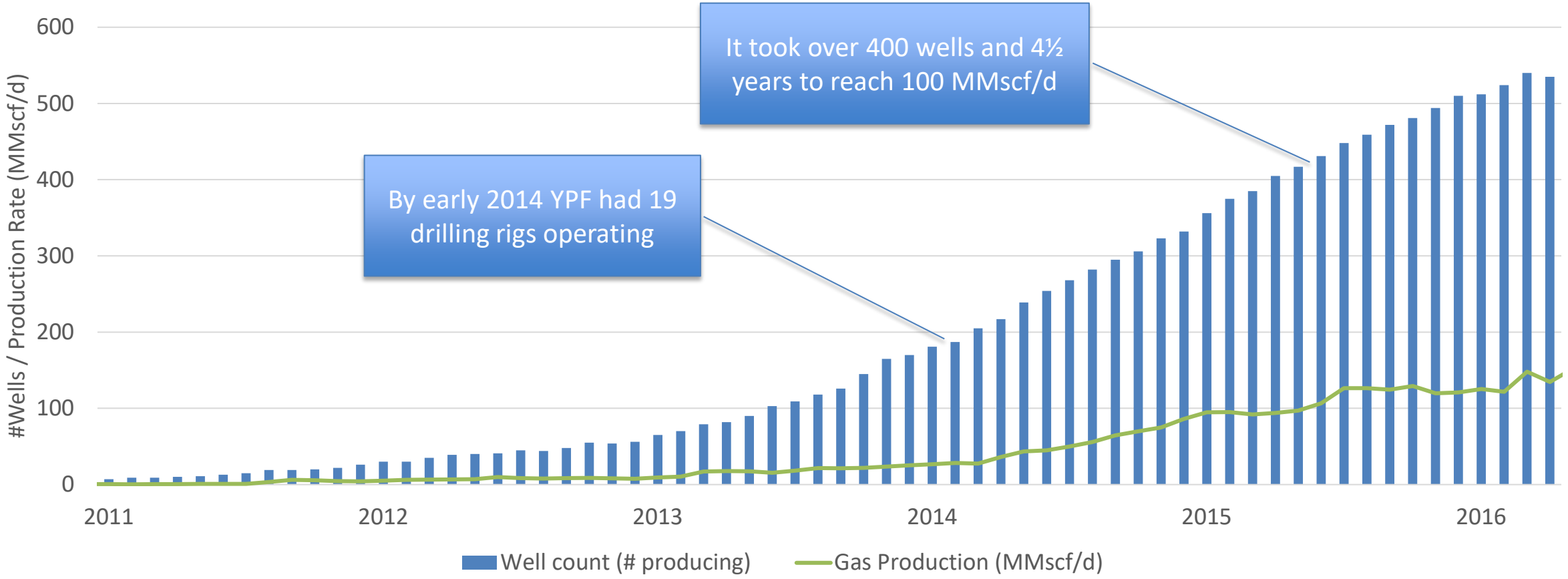
	Marcellus	Vaca Muerta	Beetaloo
Age of Rocks	Devonian	Jurassic	Proterozoic
Age of Rocks (millions of years)	390	145	1300
Depth of formation (km)	1.5-2.75	2.9	1-2.5
Aerial extent (km^2)	246,000	30,000	28,000
Start of “conventional” production (year)	1859	1918	-
Significant petroleum infrastructure	✓	✗	✗
Start of unconventional Exploration/Appraisal	2004 (1980s)	2008	2016 /18
Start of unconventional production	2005	2011	-
Drilling history (# of wells drilled)	6,500 (2005-2011)	600 (2011-2016)	13* (2018-2025)

Vaca Muerta Development timeline



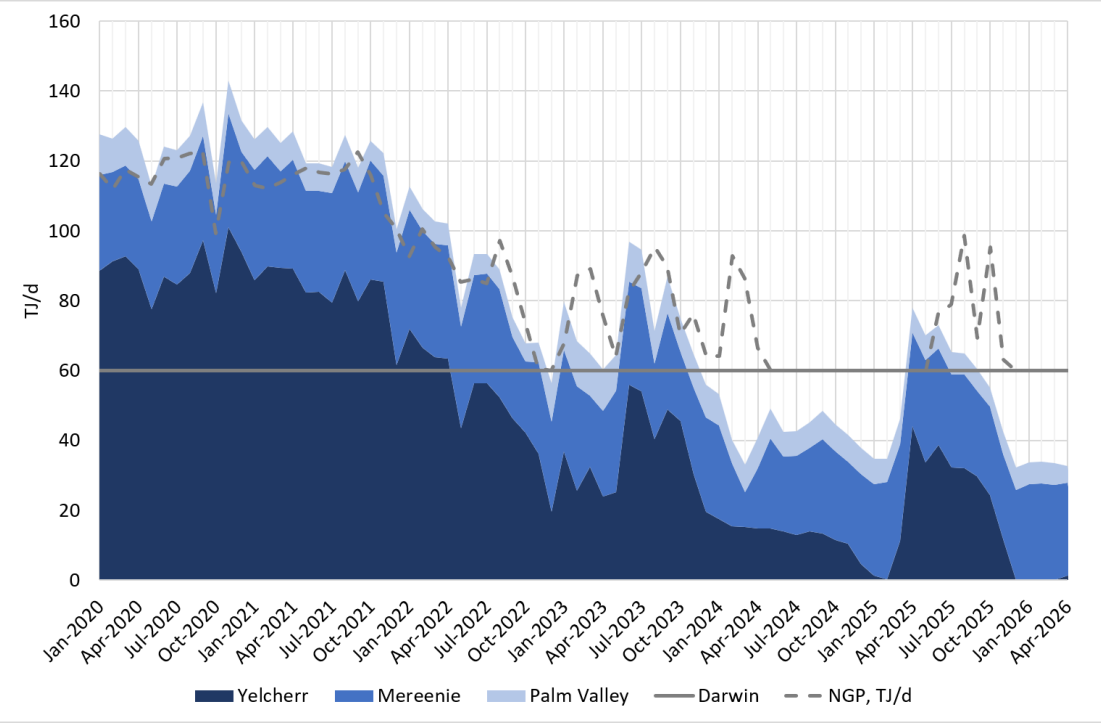
Vaca Muerta first 5 years

Activity = Production

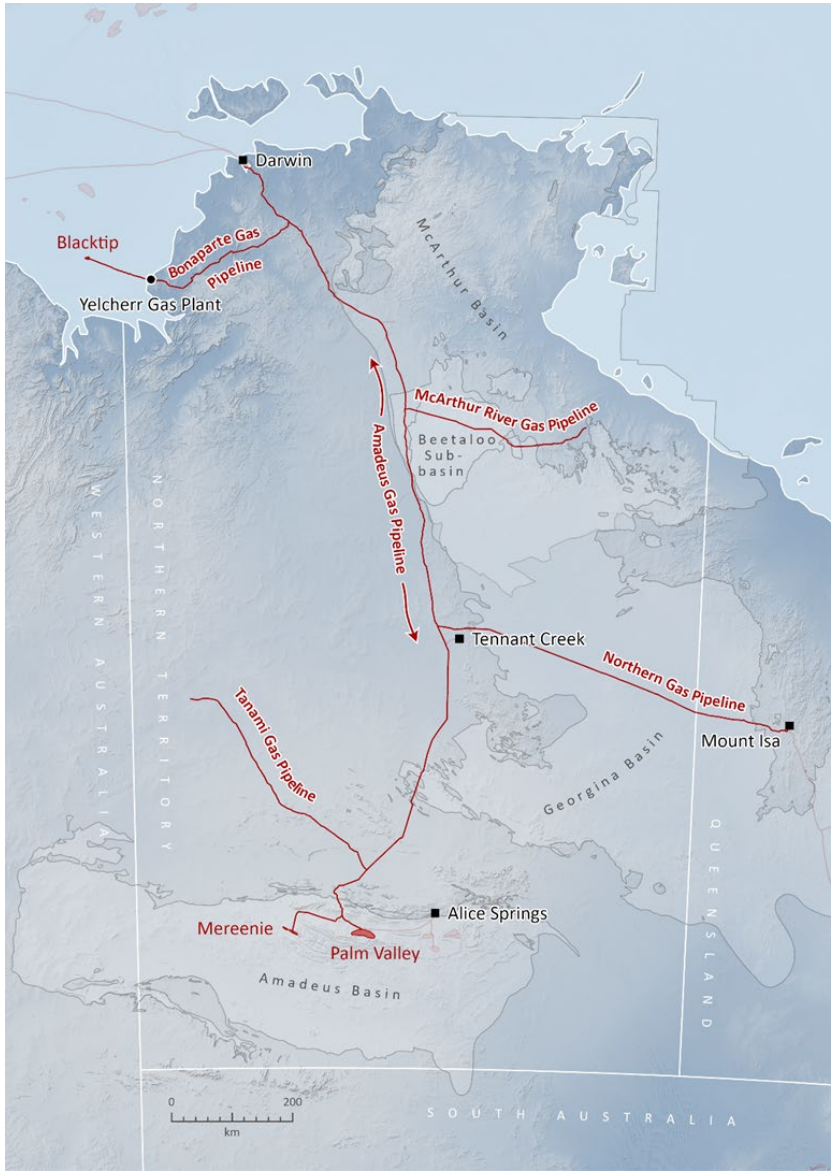


The Northern Territory is short of gas, and desperate for development

- Key pipelines are operating at below 25% capacity :
  - Amadeus Gas Pipeline (bi-directional) - ~140 TJ/d
  - Bonaparte Gas Pipeline - 106 TJ/d (empty)
  - Northern Gas Pipeline - 106 TJ/d (empty)
- Darwin requires 60-65 TJ/d (receiving gas from LNG facilities).
- Current production ~30 TJ/d (Blacktip / Mereenie / Palm Valley)



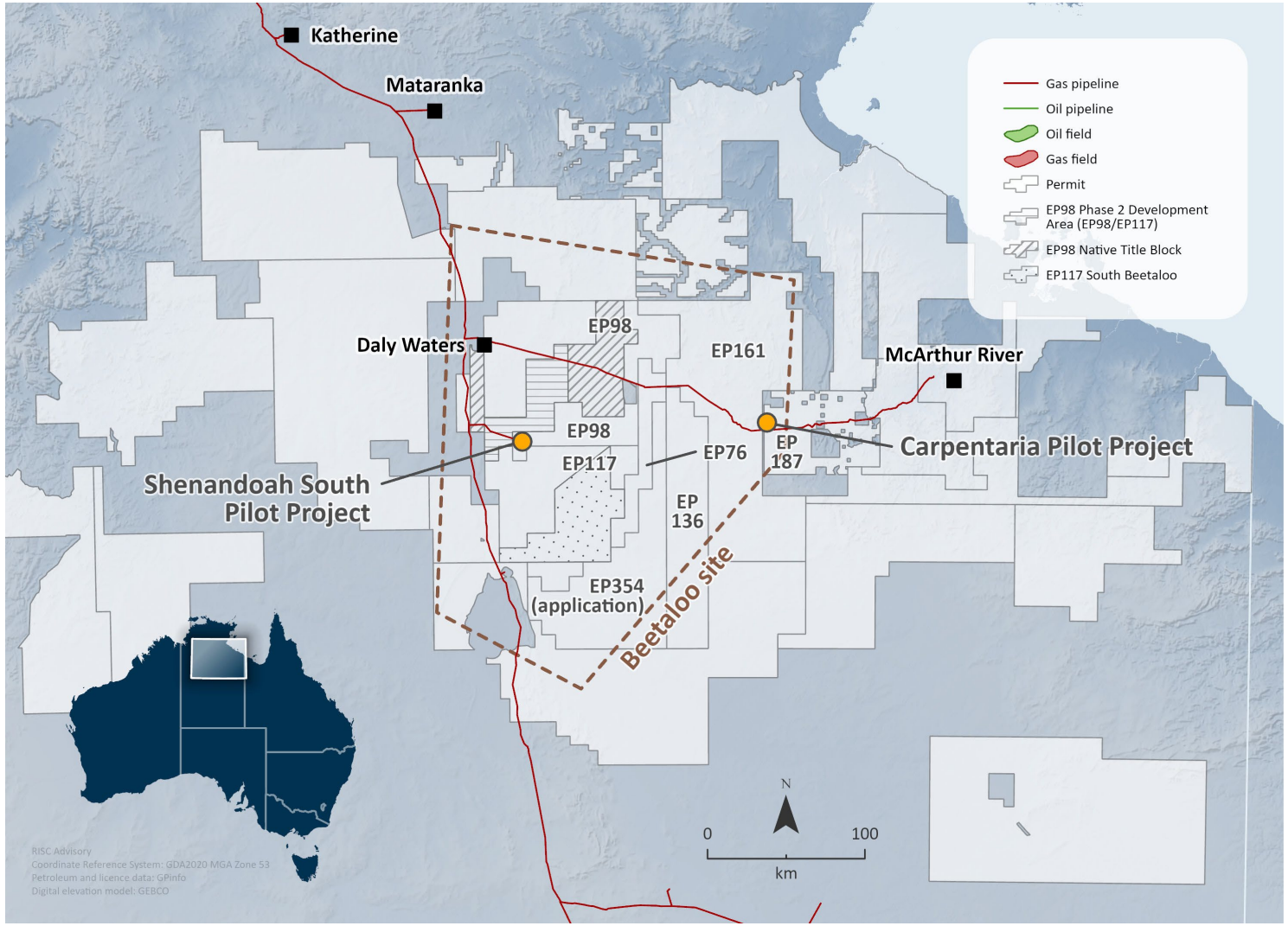
- RISC estimates current infrastructure could absorb up to 150 TJ/d and possibly more



Beetaloo has ongoing development activity.

- Shenandoah South – Tamboran Resources (EP98/EP117 – 50/50 with Daly Waters Energy)
  - 40 TJ/d into Amadeus Gas Pipeline (AGP).
  - Sturt Plateau Pipeline (spur to AGP) construction completed in Feb 2026.
  - Target start up in Sept 2026.
  - Phase 2 development area identified to the north of the pilot project.

- Carpenteria – Beetaloo Energy (EP187, 100%))
  - 15 TJ/d into McArthur River Pipeline.
  - Targeting start up in 2026.
  - DWE and Liberty Energy have a combined 4.5% royalty (ORRI) interest.



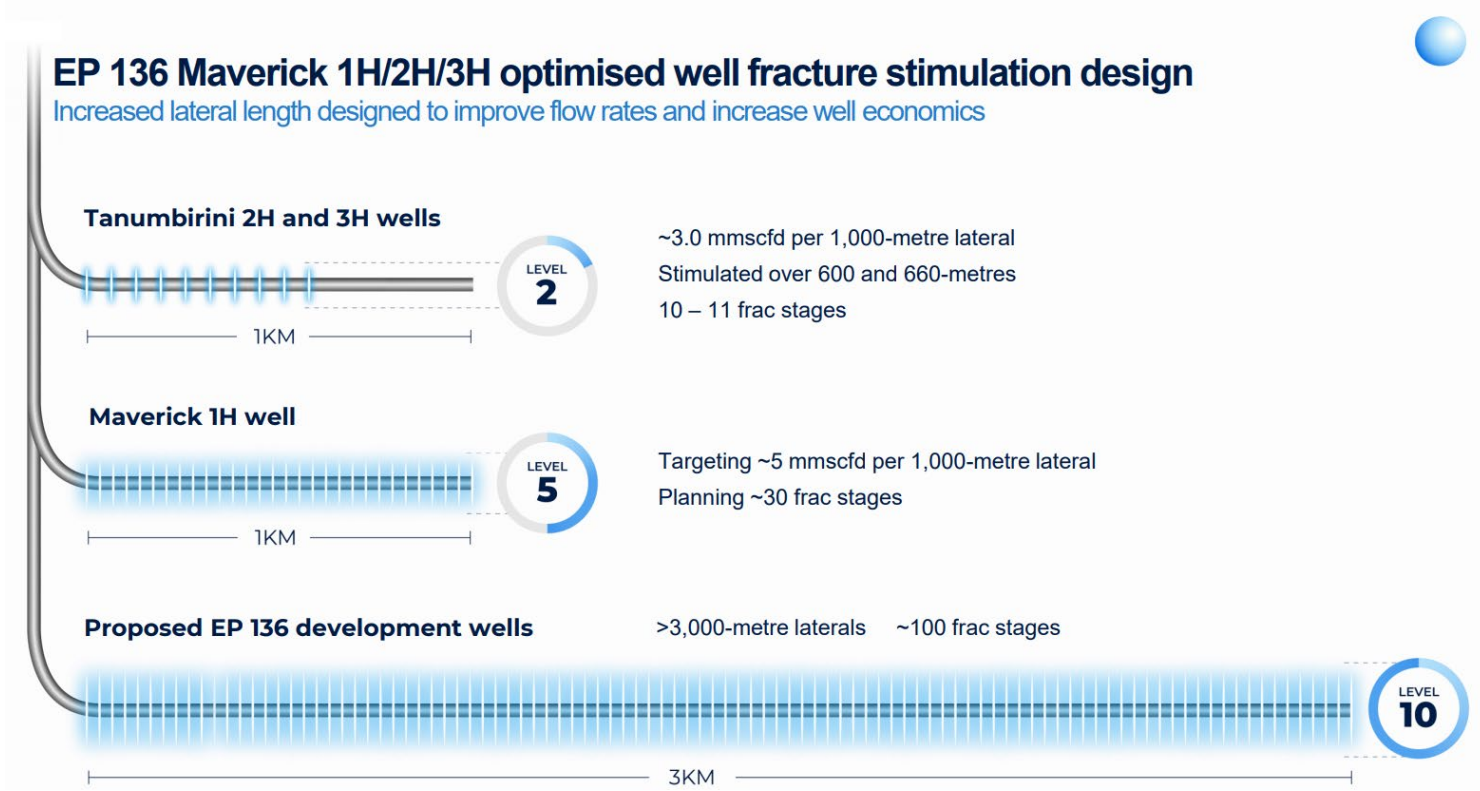
Progress towards commercialisation has been slow

Feb 2022

- Santos tested Tanumbirini 2H and 3H in EP 161
  - recorded ~14-day average flows of 1.5-1.7 MMscf/d over 600+m laterals.
- Tamboran (25% in EP161) declared this a sign of commerciality and announced plans for “5 MMscf/d per 1,000 m” in EP136 (100% owned), including:
  - A Maverick-1H well in mid-2022.
  - Target initial 2C booking (FY 2023).
  - > 1Tcf of 2P reserves by end of 2023.
  - Gas Sales by end 2025.

Oct 2022

- Tamboran announced the acquisition of Origin Energy’s Beetaloo Basin assets, EP98, 117 and 76.
  - Shifted the focus of their pilot development to the Amungee site in EP98.
  - Announced drilling of Maverick-1V well.
  - Spudded Amungee 2H, first “US-style” well in Nov 2022.



Activity levels have remained low

Early 2023:

- Target of first production from Amungee of 100 TJ/d by end 2025.

June 2023:

- Amungee-2H tested at <1 MMscf/d. Considered a skin problem.
- Plans to drill Shenandoah South 1H (SS-1H).

Nov 2023:

- Pilot project moved to 40 TJ/d at Shenandoah South (SSPP)

April 2024:

- IP90 of 2.9 MMscf/d from SS-1H (only stimulated 500 m).
  - Plans to further improve performance, targeting IP30 of ~20 MMscf/d for a 3,000 m horizontal well.
  - IP30 from SSPP wells anticipated in Q1 2025.
  - SSPP Production expected in H1 2026.

Feb 2025:

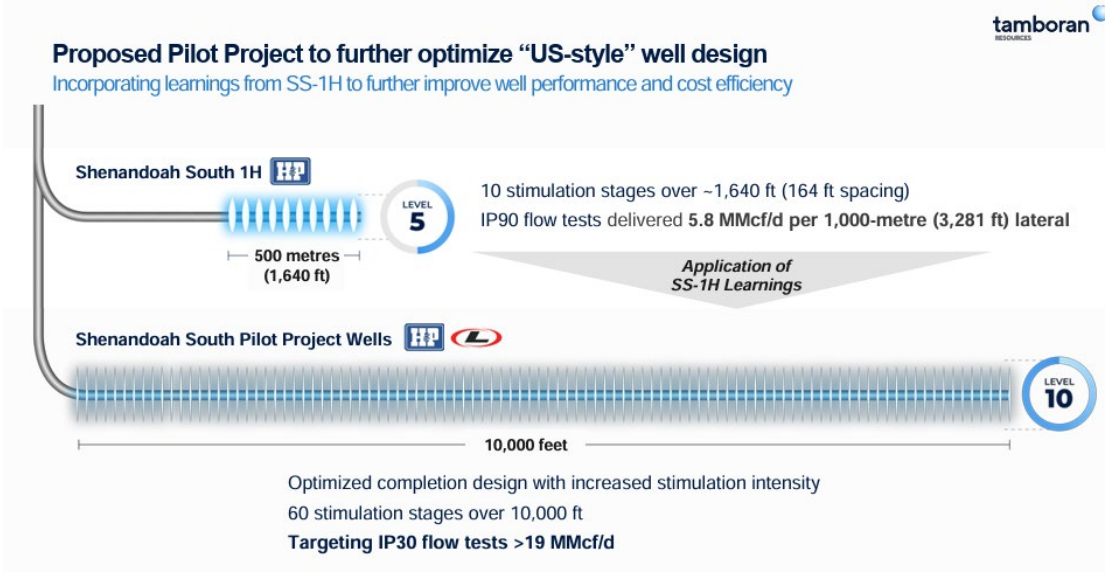
- IP30 from SS-2HST1 and SS-3H expected mid-2025.

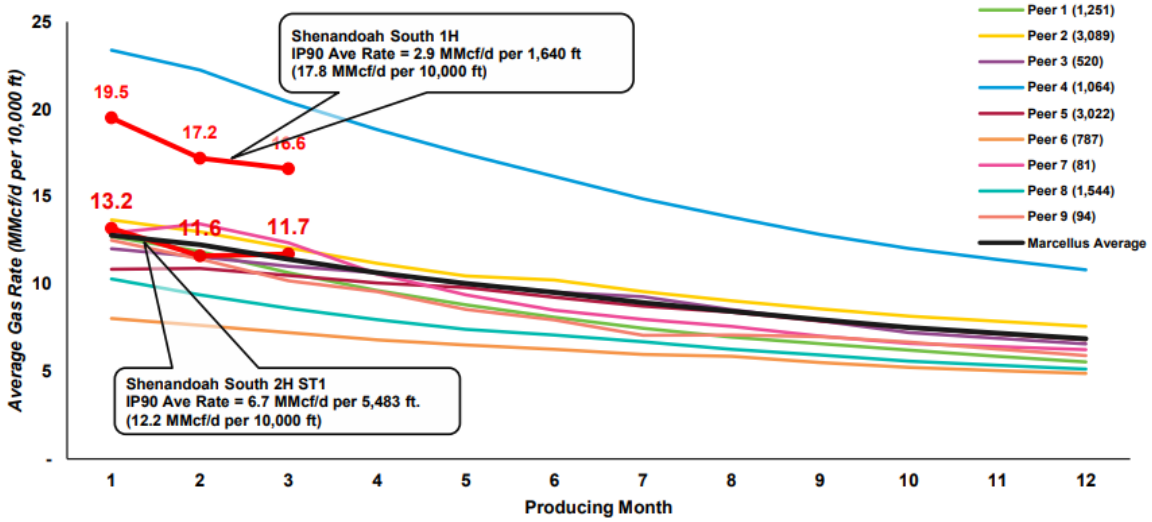
Aug 2025:

- SS-2HST1 "record" IP90 of 6.7 MMscf/d over 5,483 ft interval.
- SS-3H not tested.

Sep 2025:

- SSPP Final Investment Decision (FID).
  - First gas mid-2026.
  - 3 wells drilled by end 2025 and IP30 of SS-4H in early 2026.





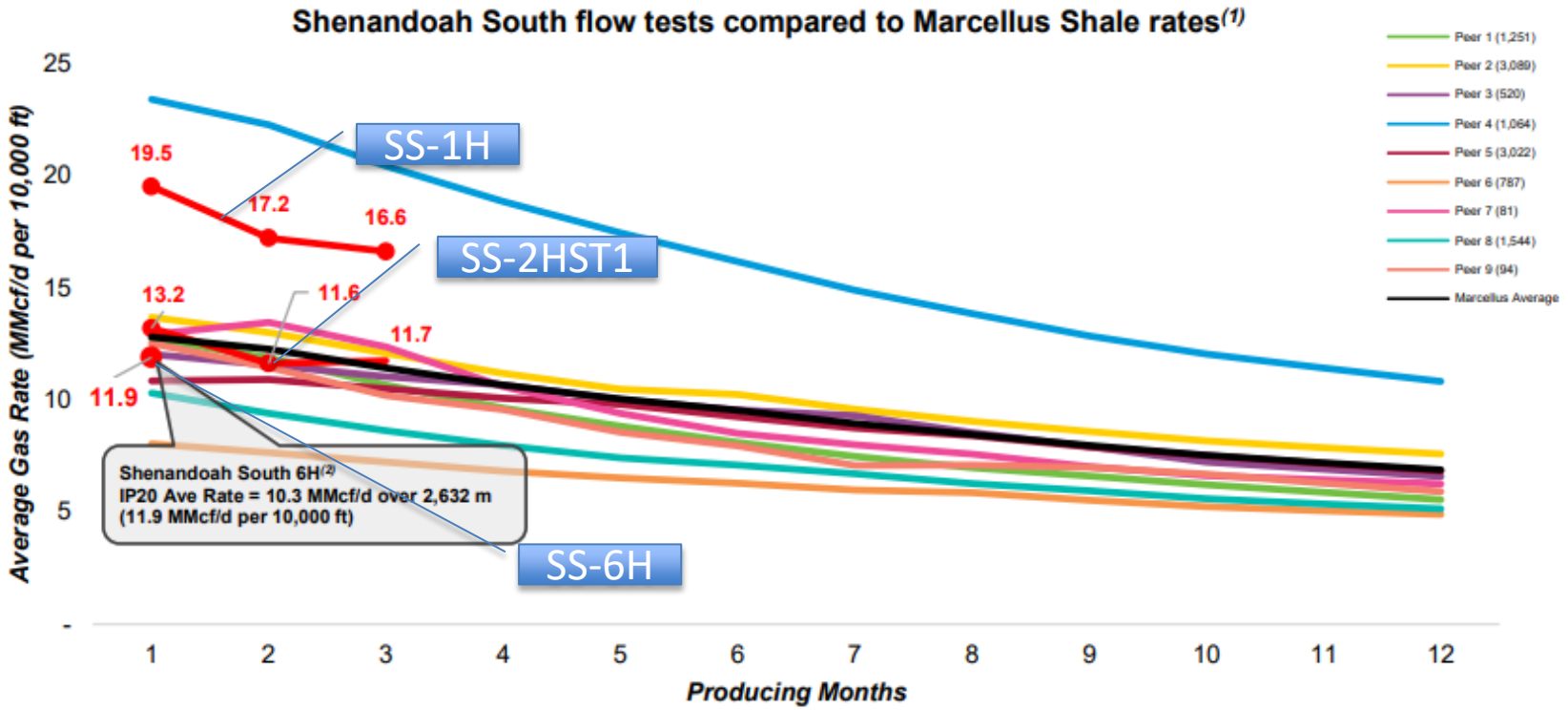
Results have not shown continuing improvement

April 2026:

- SS-4H not tested.
- Record flows from SS-6H a ~2,800 m horizontal well.
  - IP20 of 10.3 MMscf/d "normalized" to 11.9 MMscf/d.
  - Stable exit rate of 8.8 MMscf/d.

July 2026:

- Stimulation of SS-3/4/5H.
- Now planning for 3 additional wells for SSPP and start up in 2H 2026.
  - SS1-2H, SS1-4H, SS1-6H.

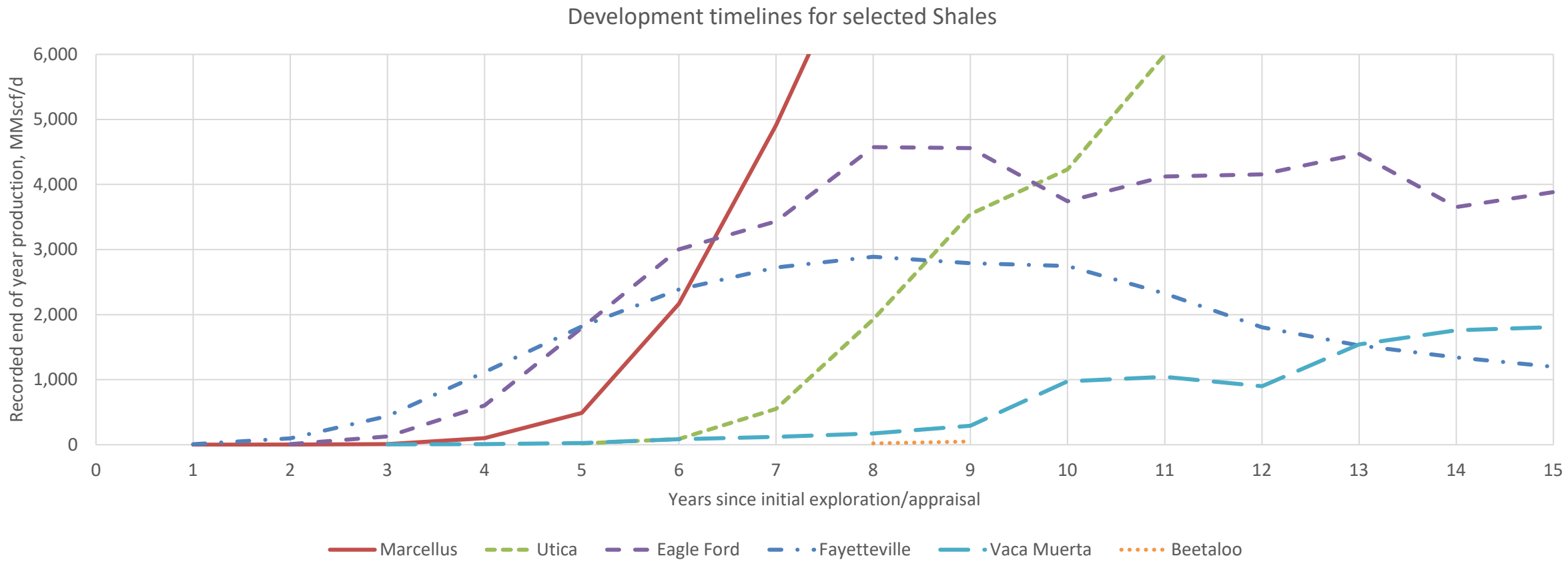


Elsewhere:

- Beetaloo Energy reported IP30 of 6.9 TJ/day for the Carpenteria-5H well (~3,000 m / 10,000 ft).
  - Anticipated start-up by end of 2026, 15 TJ/d production from C-2H/3H/5H
  - C-2H, IP30 = 3.2 TJ/d : C-3H = 3.8 TJ/d.
- Santos announced a 3 well appraisal program (2026/27) that would be tested for 9-12 months.
  - Now revised to 2 wells

History suggests development will be slower and lower.

Whilst there is clearly gas in the Beetaloo it is not yet clear that the pathway to development has been “cracked”.



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