



Australia PETROLEUM



Gas and oil opportunities in Australia's Northern Territory

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February 2019

Onshore petroleum in the NT

Producing basins: Amadeus Basin

- 35 years conventional gas and oil production
- 2017 production: 5 Bcf gas, 216,000 bbl oil with capacity to expand
- potential for helium : estimated potential for up to 493 Bcf He in sub-salt plays

Prospective basins: Beetaloo Sub-basin, McArthur Basin, South Nicholson Basin, Georgina Basin, Bonaparte Basin



Proximity to markets

Offshore markets

- Australia's closest LNG hub to east Asia: Ichthys LNG Project (initial capacity of 8.4 Mtpa LNG) + Darwin LNG (capacity of 3.7 Mtpa LNG)

Onshore markets

- Improved pipeline infrastructure -now linked to domestic east coast markets



Exploration

Companies with granted tenure include:

Beetaloo Sub-basin:

- Santos,
- Origin Energy,
- Pangaea Resources

McArthur Basin

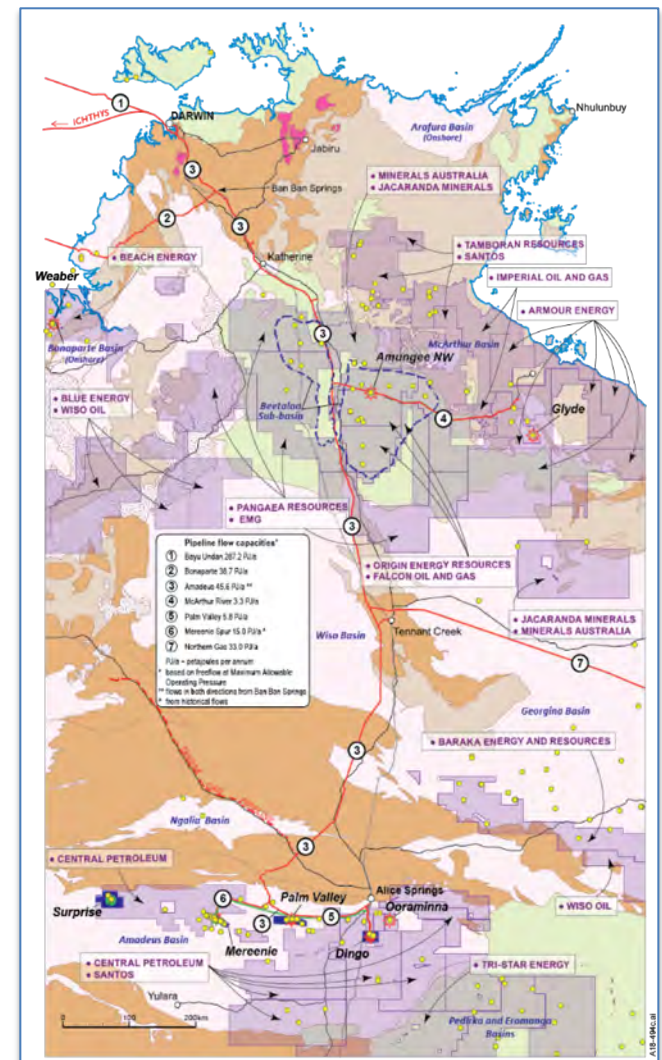
- Imperial Oil and Gas,
- Armour Energy,
- Paltar

South Nicholson Basin

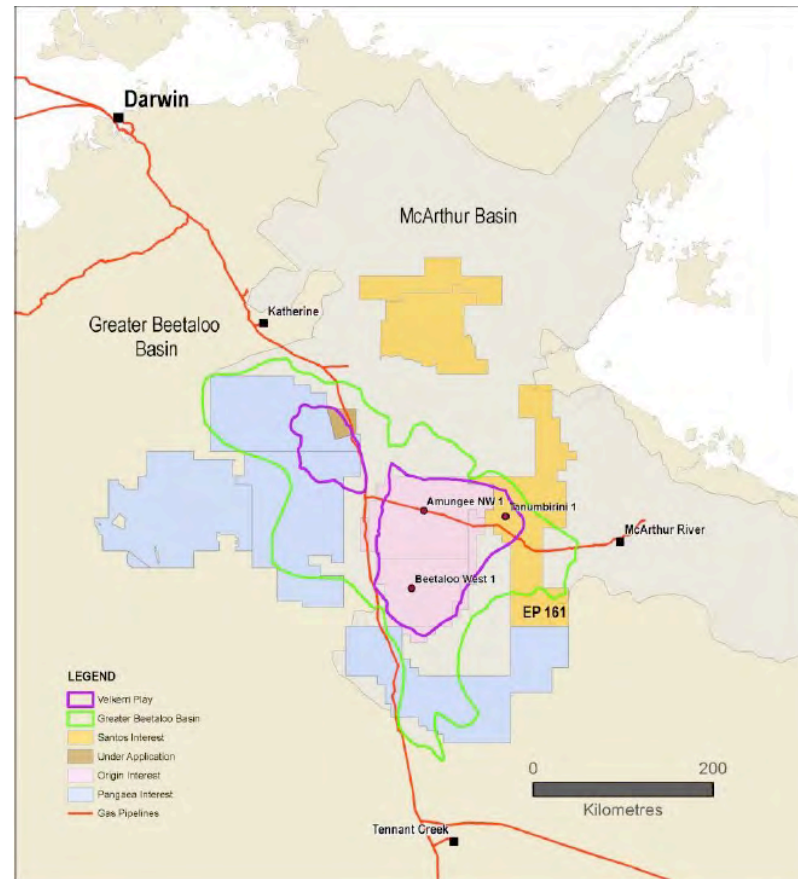
- Jacaranda Minerals

Amadeus Basin

- Central Petroleum
- Santos

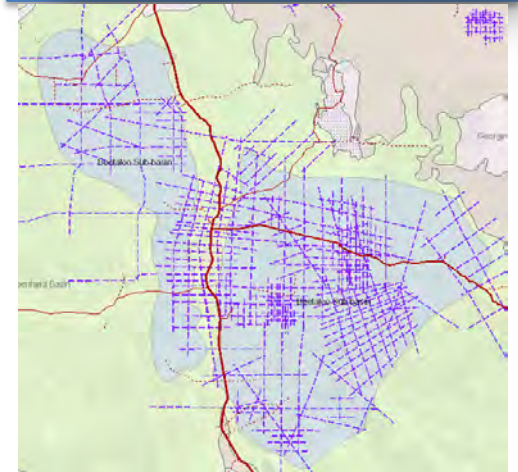
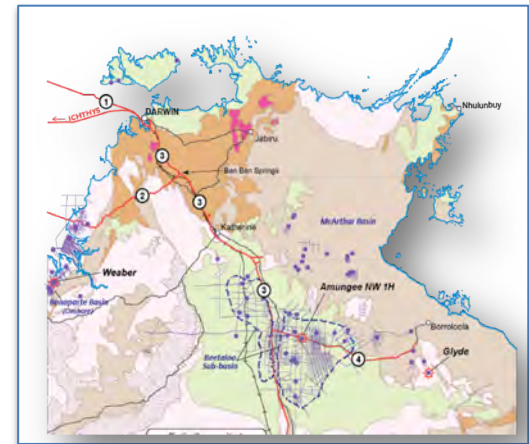


Targeted Shale Areas in 2019



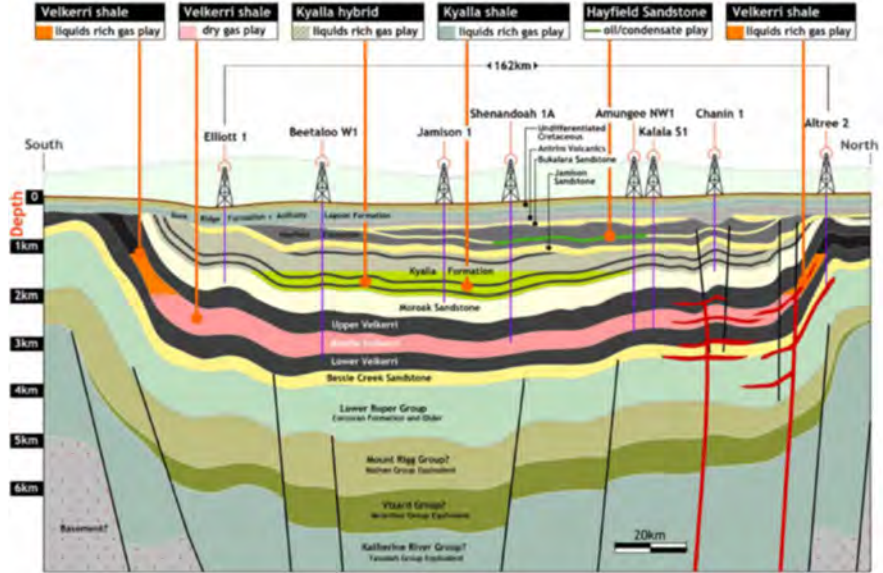
Beetaloo Sub-basin

- Vast geologically continuous shale gas basin with stacked plays
- Analogous to US shale gas plays eg Marcellus Shale
- > 10 000 sq miles of prospective shales
- Industry estimates of > 500 Tcf gas in place within B-shale of Velkerri Formation
- First horizontal hydraulically fractured well successfully flowed gas
- Multiple dry gas, wet gas & liquids plays
- 11 Wells drilled targeting Velkerri and Kyalla shales since 2014
- Extensive seismic acquisition
- Drilling and hydraulic fracturing to restart in 2019



2019 Activity Summary

- 2 ea Horizontal wells testing the Velkerri B Shale, dry gas
- 1 ea Horizontal well testing the potential liquids rich gas in the Velkerri Shale (shallower depth)
- 1 ea Horizontal well testing the potential for liquids rich gas in the Kyalla Shale
- 50 km of 2D Seismic



Regulation and development

- Scientific Inquiry into Hydraulic Fracturing Final Report delivered March 2018
- All recommendations from Inquiry accepted by NT Govt - moratorium on hydraulic fracturing lifted April 2018
- Plan for implementation of recommendations released July 2018; information can be found at: www.hydraulicfracturing.nt.gov.au
- Shale gas exploration recommencing in 2019



Regulation and development

- Recommendations based on other Australian jurisdictions' approach to petroleum development.
- Codes of practice for well operations, surface activities, wastewater framework and methane monitoring almost completed.
- Publicly advertising applications for drill/frack.
- Industry heavily involved with understanding and contributing to implementation – **and believe the recommendations are not prohibitive.**



Opportunity for industry to gain social acceptance

Inquiry Recommendations = change to engage community support

- Change to the way government and industry has operated for petroleum exploration/production in the NT
- Change in response to community expectations and the Inquiry's extensive community consultation
- Chance to forge a social licence in this developing industry
- A number of recommendations require a change to laws and standards ie Codes of Practice
- However, most relate to social requirements/acceptance and engendering a social licence for industry
- **These requirements are not cost prohibitive to industry and are activities already performed by industry around the world**

Opportunities

- Development of NT shale plays is likely to require US expertise, services, and capital
- Junior to mid-tier explorers with substantial land packages looking for partners
- Opportunities for farm-in, equity or purchase
- New land releases to be considered in 2020
- Visit us at NAPE to discuss opportunities



Thank you

