Shale resources and opportunities, Beetaloo Sub-basin, Northern Territory

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NAPE Houston, Feb 2019
Mesoproterozoic sub-basin within highly prospective Paleo-Mesoprot greater McArthur Basin

- Vast geologically continuous shale gas sub-basin
- 100’s of Tcf of gas in place
- 1st horizontal hydraulically fractured well successfully flowed gas
- Potential for multiple dry gas, wet gas & liquids plays
Offshore markets
• closest LNG hub to SE Asia: Ichthys LNG Project (initial capacity of 8.4 Mtpa LNG) + Darwin LNG (design capacity of 3.7 Mtpa LNG)

Onshore markets
• Improved pipeline infrastructure - now linked to domestic east coast markets
Prospective basin architecture

- Integration of exploration seismic & well data to constrain subsurface prospective stratigraphy and basin forming structures (NTGS)
- > 300km Mesoprot Roper Group (Velkerri Fm, Kyalla Fm) and Palaeoprot McArthur Group (Barney Crk Fm)

Schematic E-W composite cross section through Beetaloo Sub-basin
Prospective formations

Velkerri Formation
- technically most mature
- dry to wet gas cont over > 80 km
- 3 organic rich shale intervals
- ave TOC 3-4%
- Hydraulically stimulated - extended flow rates of 0.8-1.2 MMscf/d
- Amungee NW-1H 2C contingent resource 6.6 TCF

Kyalla Fm & Hayfield Ss
- technically less mature
- ave TOC 1-3%

https: doi.org/10.1071/AJ17040
Multiple potential plays

Origin Energy (2018) identified multiple stacked potential plays

- Velkerri Shale dry gas
- Velkerri Shale liquids rich gas
- Kyalla Shale & hybrid lithology liquids rich gas
- Hayfield Sandstone oil/condensate

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Exploration within Beetaloo

- Granted exploration tenure held by Santos/Tamboran JV, Origin/Falcon JV, Pangaea Resources; application tenure held by Inpex

- Published forward work programs for Origin/Falcon JV in 2019 include exploration & appraisal program to evaluate identified potential of liquids rich gas faiways in both Kyalla and Velkerri shales
Regulation and development

- Scientific Inquiry into Hydraulic Fracturing Final Report delivered March 2018
- all recommendations from Inquiry accepted & moratorium on hydraulic fracturing lifted April 2018
- Information on recommendations can be found at: www.hydraulicfracturing.nt.gov.au
- Exploration in the Beetaloo Sub-basin expected to recommence in 2019.
• interpretation ready Kingdom seismic project over Beetaloo Sub-basin, Frogtech SEEBASE update over greater McArthur Basin
• Discover and download geoscience information at: www.minerals.nt.gov.au/ntgs
• Regulatory information can be accessed through www.minerals.nt.gov.au
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