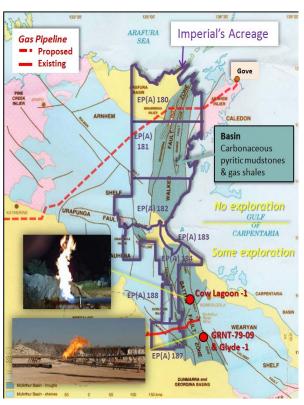


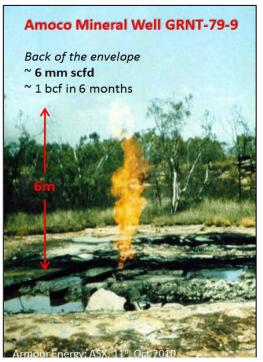
McArthur Basin Shale Gas Play Northern Territory Onshore Australia





Summary

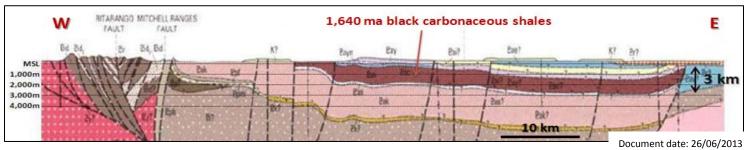
In 2010 Empire Energy Group Limited, through its 100% owned subsidiary Imperial Oil & Gas, secured 100% interest in 59,000 km² (14.6million acres) of prospective shale gas exploration acreage in the Proterozoic McArthur Basin (Exploration Permit Applications EP (A) 180 – 188). The McArthur Basin is an underexplored petroleum frontier basin with direct indications of oil & gas. Exploration wells drilled nearby in 2012 discovered gas in the same thick carbon-rich black petroliferous shales that are widespread in Imperial's acreage. There is an existing gas pipeline across Imperial's EP(A) 187 and one planned through EP(A) 180 & 181. Analogue shale gas basins suggest Imperials extensive acreage contains multi- Tcf of potential recoverable resources. The grant of the Permits and commencement of exploration operations will occur once agreements have been negotiated with Traditional Land Owners. This process is well advanced and seismic and then drilling are planned to commence in mid-2013.



Exploration Plays

The target petroleum resource is in 1,640 million year old Palaeo-Proterozoic organic-rich black shales of the **Barney Creek Formation** and equivalents, proven gas-prone in the South McArthur Basin. The 1979 mineral core hole GRNT-79-9 ignited and sustained a 6m high yellow smoky gas flare for approximately 6 months producing an estimated 0.5 Bcf at 6mmscfd. This demonstrated the presence of a petroleum system. Gas analysis revealed C1-C7. Also, oil bleeds are common in cores hence shale oil offers secondary potential. Drilling of Cow Lagoon-1 and Clyde-1 in 2012 produced free flowing gas confirming the Basin formations are hydro carbon bearing.

The Meso-Proterozoic **Velkerri Formation** also contains carbon-rich black shales & siltstones and is present in the southern EP(A)s 187 & 188. This formation is the focus of shale gas exploration by others in the adjacent Beetaloo Basin to the south.



Barney Creek Formation

Lithofacies Carbonaceous black silty dolomitic shale

 Depth
 Outcrop to 4,000m

 Thickness
 500 – 1,000m

 TOC
 0.4 – 10.4%

 S1+S2
 5-70 kg/ton

Maturity Immature up to Gas





Key Uncertainties & Risk

Being a frontier basin the regional extent, quality, and thermal maturity of the gas shales must be adequately constrained. Potential gas & oil-prone sweet spots are yet to be delineated. The *Australian Shale Research Group* at the University of Adelaide has analysed 650 Proterozoic shale samples to characterize the nature and distribution of hydrocarbons in the Southern portion of Imperial's license areas. This work will be integrated with a Basin Geo-modelling study that commenced in late 2012.

Land access and permit grant in six of the seven permit applications requires approval of the Traditional Aboriginal Landowners given they are in Aboriginal Freehold Land.

On 14th June 2013 an Exploration Agreement was signed by Imperial, Aboriginal Native Title Claimants and the Northern Land Council in area EP(A) 184 which covers 11,220 km² (2.8 million acres) of the highly petroleum prospective McArthur Basin central trough.

Substantial progress has been achieved to date in negotiating access to the other areas and Imperial anticipates announcing the progress of negotiations over the remainder of 2013.

Exploration Work Programme

During December 2012 Imperial undertook a field reconnaissance program in areas EP(A) 180, 181 & 182. Senior Traditional Owners participated in the program with objectives to quantify access & logistics for seismic and drilling operations, undertake water quality and flora & fauna studies and inspect key rock outcrops.

Imperial's McArthur Basin acreage is strategically located for potential gas sales. In the event of gas discovery, depending on the scale of resource, the Gove Refinery is just 80km to the east of EPA 180 and the 'Gas to Gove' pipeline runs through 2 of the Company's tenements. This would replace diverted gas quotas for use in Darwin, or for overseas export. In addition, Imperial has initiated discussions with mining companies in the area to pursue local gas provision opportunities. Any liquids produced would be trucked to Darwin.

Exploration Strategy

3 distinct exploration corridors

- Spread risk (geological & market)
- Define resource density
- Leverage infrastructure & customer

Rigorous technical focus

- Segments with organic enrichment
- Oil vs gas maturity
- > Basin fill sequence architecture
- Chronostratigraphy of shale targets
- Basin structure & shale thickness/depth
- Reservoir deliverability

Extended well test

- > Determine production sustainability
- Reduce carbon footprint (no flaring)
- > EWT gas to local consumers
- MOUs being finalised
- Judicious first step toward supply

Strong indigenous focus

- Training & jobs
- Cultural heritage & Art
- Environment & water

More information on **Imperial Oil & Gas Pty Ltd** and its Parent **Empire Energy Group Limited** (ASX: EEG)

can be found at

www.empireenergygroup.net T: +61 (0)2 9251 1846