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## Arrowsmith-2 Update

### Completion operations scheduled to commence 1 August 2013

Norwest Energy (ASX:NWE) is pleased to report that the completion operations of the Arrowsmith-2 shale gas well are scheduled to commence 1 August 2013. Mobilisation of equipment to site is now proceeding and is expected to be operational for the scheduled commencement date of 1 August 2013.

In the March 2013 ASX Quarterly Report Norwest advised:-

“Arrowsmith-2 is showing excellent rates of gas flow for the size of the intervals fraced, and has produced oil and/or condensate to surface from the two intervals flowed back to date.

The flowback methodology applied by Norwest is different to that applied by most other operators in Australia testing unconventional wells – the well is being flowed back and reported by individual zones (rather than as one whole), providing a clear picture when assessing performance characteristics for each interval.

Importantly, as the current 5 ½” well casing has proven to restrict the transport of fluids and potentially impede gas production, it is intended that smaller-diameter tubing (2 3/8”) will be installed to reduce the effect of the fluids and greatly assist the flow of gas.”

Since reporting the plans to install the completion tubing Norwest has actively been procuring and progressively taking delivery of the equipment and associated components as well as attending to planning and permitting matters. Norwest expects to be operational by the scheduled start-up date of 1 August 2013.

The installation of the smaller completion provides an opportunity to fast track the HCSS evaluation programme. As this zone had returned the majority of its fluids during the initial flowback, it is advantageous to finalise the production assessment so commercial decisions on this zone may be progressed. Post HCSS testing, it is expected that the IRCM and Carynginia formations will require longer term clean up and production testing to confirm the future appraisal and commercial opportunities of those zones.

The Carynginia zone has remained shut in during the last few months to monitor pressure build up. A short duration flow test will be conducted during the lead up period to the next phase of the program.

## About Arrowsmith-2

The Arrowsmith-2 well is situated in the central eastern area of Permit EP413 with the surface location being approximately 30km north of the township of Eneabba. ( refer fig1.)

Norwest, as Operator and on behalf of its Joint Venture partners drilled the Arrowsmith-2 exploration well in mid-2011. In 2012 the well was subsequently perforated and fracture stimulated in five discrete stages across four formations; the High Cliff Sand Stone (HCSS), Irwin River Coal Measures (IRCM), Carynginia Formation and Kockatea Shale.

Each of these stages was flowed back for a limited period immediately following the treatment of each respective zone during the fracture stimulation campaign. After the fracture stimulation and short flow back operations, the well was completed such that each zone may be sequentially flowed back through the 5 ½" casing.

In October of 2012 flow back and well testing of the Kockatea Shale formation recommenced until assessment was completed in February 2013 when the interval was subsequently isolated and evaluation of the Carynginia Formation commenced.

Arrowsmith-2 maximum gas rates per interval (to date) and total maximum rates are:

Kockatea Shale	414,000 scf/d
Carynginia	355,000 scf/d (higher rate expected on further cleanup)
High Cliff Sandstone	780,000 scf/d (higher rate expected upon well test)
<b>Progressive total at March 2013</b>	<b>1,549,000 scf/d</b>

(This does not include a contribution from the Irwin River Coal Measures)

In an ASX release dated 11 June 2013, Norwest reported that international evaluators DeGolyer & MacNaughton, had ascribed estimated prospective resources for EP413/Arrowsmith as follows:-

“Best Estimate (P50) Prospective Gross Recoverable Resources of

450 million BOE (barrels of oil equivalent), including 2.6 trillion cubic feet of gas”

The focus of D&M’s report has been on the shale gas fairway comprising a gross area of 160km<sup>2</sup> to the east of the Beagle Fault which dissects the EP413 block. The prospective resource estimation considers the mean potential productive area to be approximately 90km<sup>2</sup>.

**Joint Venture partners in EP413:**

Norwest Energy NL (Operator)	27.945%
AWE Limited (via subsidiaries)	44.252%
Bharat PetroResources Ltd	27.803%

**Peter Munachen**

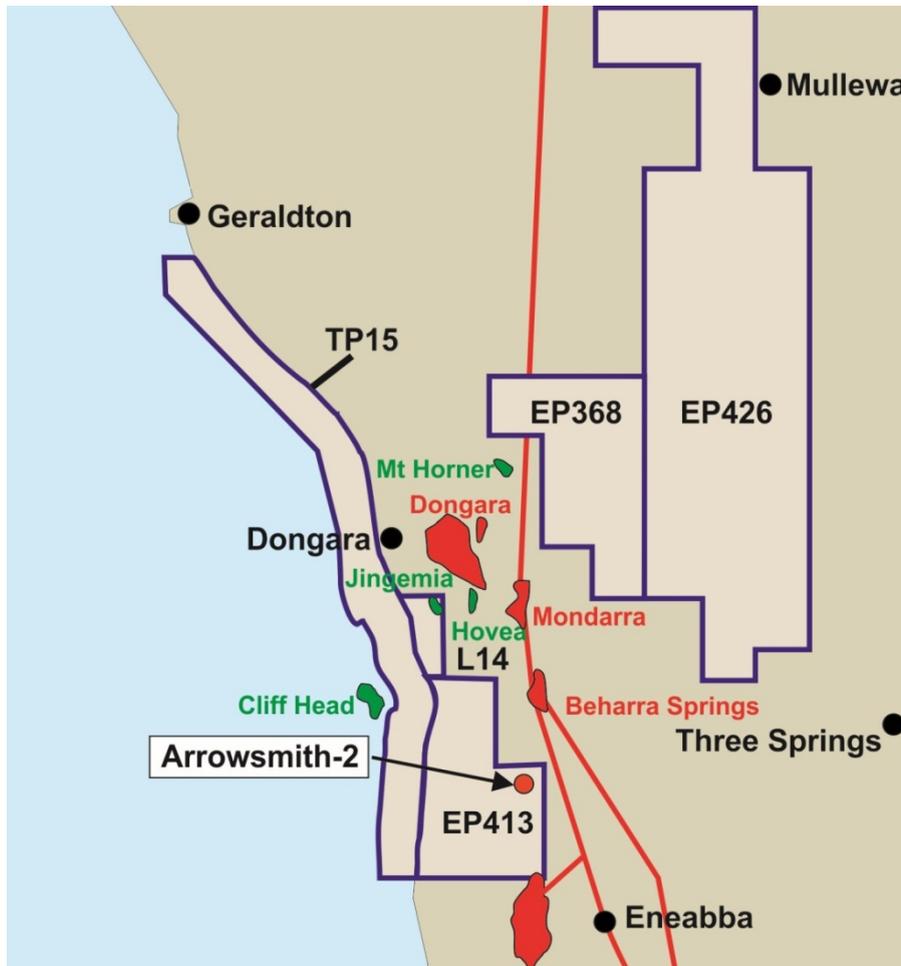
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**Fig 1. Arrowsmith-2 Location**