



Swooping in on shale: Falcon Australia

At the end of 2011, Falcon Australia tested and flowed gas and condensate from multiple horizons in the Shenandoah-1 well in the Northern Territory's Beetaloo Basin. These tests represent a potential world-class discovery in one of the oldest hydrocarbons systems on the planet.

The Beetaloo Basin is a Precambrian basin that is part of the larger McArthur Basin, approximately 600 km south of Darwin. Falcon owns 7 million acres in the form of exploration permits EP 99, 98, 117 and 76, which cover almost the entire basin, including its centre.

"This area equates to over half of the entire area of the North Dakota Bakken shale play in the United States that has attracted over 30 operators, created thousands of jobs, and produces more than 500,000 barrels of oil per day," says Helen Mitchell, Corporate Communications Manager for Falcon Oil & Gas, Falcon Australia's publically-traded parent company.

Hess Corporation, one of the most experienced and active operators in the Bakken shale play, is farming-in to earn a 62.5 per cent interest in 89 per cent of Falcon's Beetaloo acreage with an



The road to the Shenandoah-1 well.

\$A18.5 million cash payment, and by acquiring over \$A37 million of seismic followed by drilling and testing of five wells.

Early exploration efforts proved that hydrocarbons are pervasive across the basin, and identified multiple independent petroleum systems. Historic exploration wells encountered 3,000 m of sediment and 800 m columns of highly organic-rich shales. This lead oil and gas certifiers, Ryder Scott, to estimate shale oil and gas resources and conventional potential in excess of 18 billion barrels of oil and 64 trillion cubic feet of gas. Since the report was published in 2009, Falcon has identified two additional petroleum systems that are potential targets in the periphery of the basin in EP 99.

From old petroleum systems comes new gas

The Shenandoah-1 well is a vertical well in the deepest part of the Beetaloo Basin with a total depth of 2,714 m. In September 2011, Falcon tested five intervals in that well bore – two in the Middle Velkerri shales, two conventional perforations in the Moroak Sandstones, and a single test of the Lower Kyalla Shale.

The three tests in the shale intervals all flowed gas with some condensate, with the most positive results coming

from the Middle Velkerri shales. According to Falcon Chief Executive Officer Robert Macaulay, "Both Velkerri intervals will now be the focus for future testing. The 40° API condensate provides significant upside to the economics of any development."

The Lower Kyalla Shale also produced gas to surface, and together with the Moroak Sandstone will also be considered for further exploratory investigation in the basin.

To prove the full extent of its commerciality, Falcon would need to drill a horizontal well and conduct a multi-stage stimulation. Falcon will seek an additional joint venture partner to accelerate its drilling program to appraise and further explore the Shenandoah area and EP 99, in which Falcon has retained a 100 per cent interest after the Hess agreement.

"Currently the best method of stimulation is hydraulic fracturing. However, the science of stimulating horizontal wells in shales is rapidly evolving" says Mr Macaulay. "Falcon will be employing the most effective and environmentally friendly methodologies available when the time comes."

Keeping a bird's eye on shale

Falcon is currently focused on its Beetaloo Basin tenements, but the company will maintain an ongoing effort to review and evaluate similar plays in Australia.

"Australia contains vast resources of natural gas and shale oil. Should a suitable opportunity be identified, we would consider expanding to other exploration areas," says Mr Macaulay. "Our strength is in identifying new basins that are highly prospective for shale and conventional resources."



A condensate sample from the Shenandoah-1 well.