



Reid's Dome Project: 2018 Drilling Program Overview

November 2018

# **PL 231 Highlights**

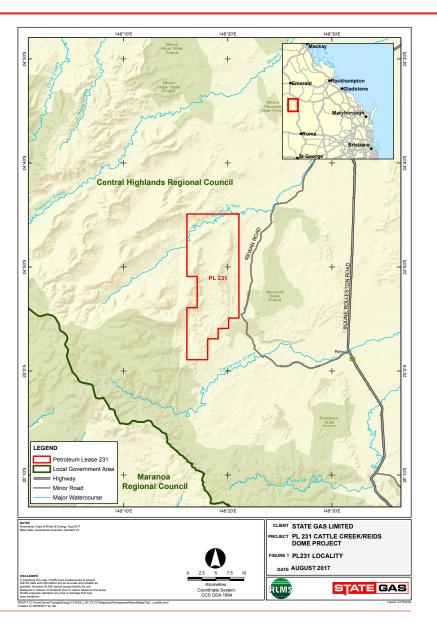


PRODUCTION LEASE & PIPELINE SURVEY LICENCE	<ul> <li>PL-231 is located in central Queensland, granted under the 1923 Act over 181 km² over Reid's Dome anticline for a 30 year term from 15/12/2005. Pipeline Survey Licence PSL-2028 was granted for a 2 year term from 01/08/2018</li> </ul>	
PROVEN GAS FLOWS	<ul> <li>15 wells drilled 1955 – 2006. Gas flows from sandstone reservoirs in the Cattle Creek Formation and Reid's Dome Beds</li> </ul>	
NEW PROVINCE - LARGE CSG OPPORTUNITY	<ul> <li>Permian Reid's Dome coal measures are extensive throughout the entire PL-231 with ~60m of net coal between 400m and 1200m. They have never been evaluated for coal seam gas (CSG).</li> </ul>	
CONVENTIONAL EXPLORATION TARGETS	<ul> <li>Cattle Creek Formation; 3-way dip closed structural traps, overpressured</li> <li>Reid's Dome Beds: ~1500m thick section with multiple prospective sandstone reservoirs in anticlinal setting</li> </ul>	
OPERATORSHIP	State Gas is Operator with 60% of PL-231	
FIRST DRILLING SINCE 2006	Two gas wells to be drilled in November-December 2018	
THREE TARGETS IN TWO WELLS DURING LATE 2018	<ul> <li>Primero West-1: Shallow conventional gas target identified in seismic data</li> <li>Nyanda-4: CSG target identified from 1987 drilling results</li> <li>Nyanda-4: Known large conventional gas targets within Reid's Dome Beds</li> </ul>	

## Location



- PL-231 lies ~50 km south west of Rolleston over the Reid's Dome anticline
- 181 km<sup>2</sup> covering a classic northsouth dome structure
- 50 km from Queensland Gas Pipeline network
- Only two landowners over areas of interest

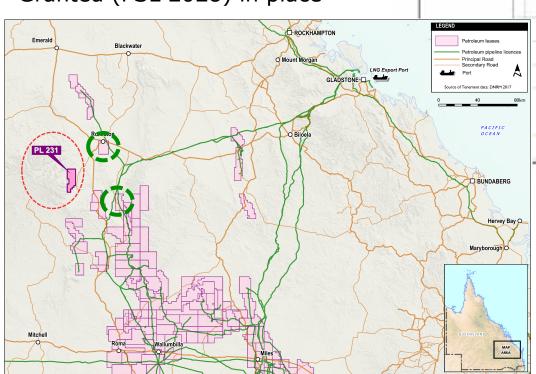


## **Infrastructure**

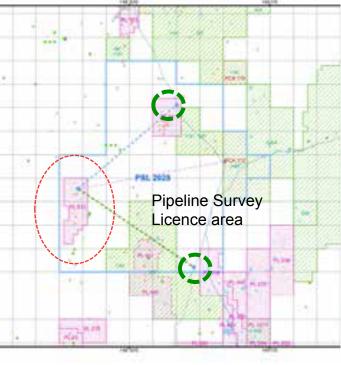


~50 km to Queensland Gas
 Pipeline network connection
 options to the north-east and
 south-east

 Pipeline Survey Licence Granted (PSL 2028) in place



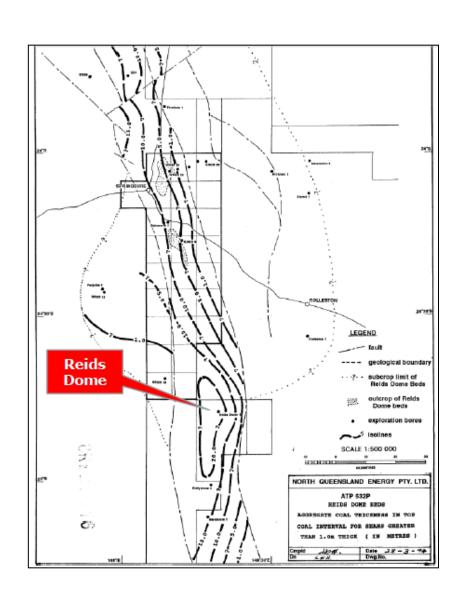
PSL 2028



## PL-231: Reid's Dome Beds CSG Target

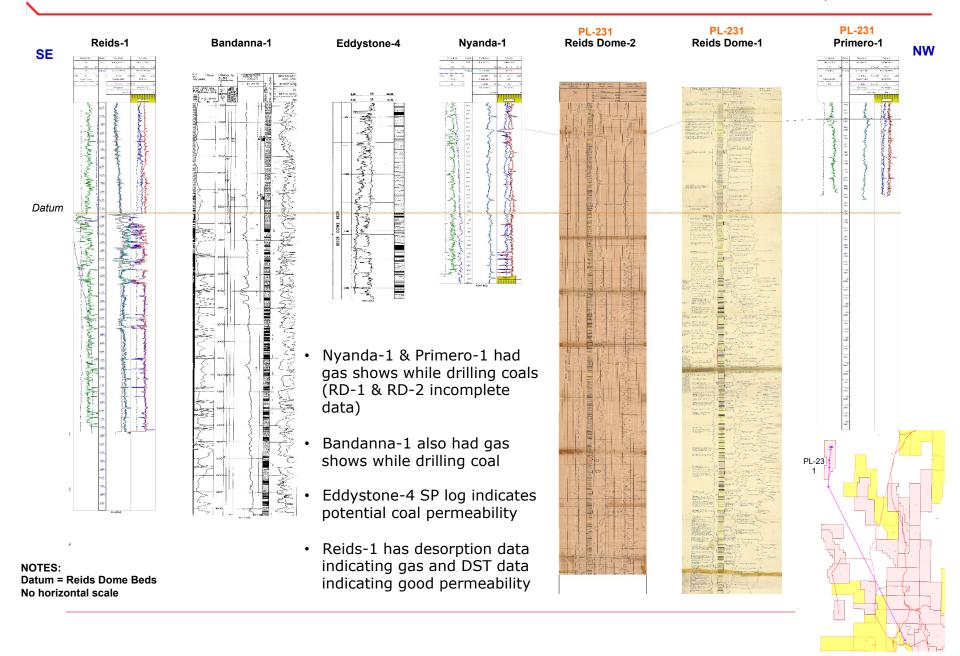


- In 1994 a North Queensland Energy study identified the potential for Reid's Dome Coal-Seam Gas in the Reid's Dome area
- Coal thickness and properties were mapped and were relatively thick over the PL-231 area. The report showed the Reid's Dome coals are high quality, low ash coal
- The study showed 61m net coal above 1200m in Reid's Dome-1
- State Gas preliminary assessment used 13m net coal and 8.5m<sup>3</sup>/ton
- Preliminary estimate (based on 13m net coal and 8.5m³/ton) conservatively suggests potential for significant gas reserves from CSG
- Existing conventional gas zones further add to gas reserves



## PL 231: Reid's Dome Beds Well Correlation

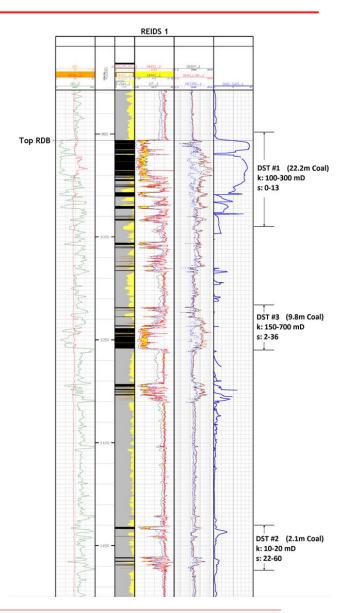




## **Reids Dome Beds CSG Analogue**



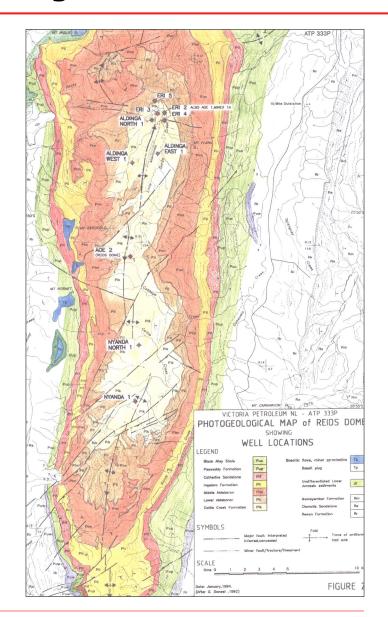
- The closest exploration for Reid's Dome Beds CSG has been at Conoco's Mt Ogg-1 ~25 km north and Origin's Reids-1&2 approx. 140 km southeast
- Reids-1, 2 demonstrated viable CSG between 1000 and 1200m and established a successful Reid's Dome Beds CSG play
  - 15.9 m<sup>3</sup>/t DAF gas content (11.8 m<sup>3</sup>/t raw, with up to 33% CO<sub>2</sub>)
  - 10 700 mD permeability
  - Located within a half-graben on the SW flank of the Comet Ridge
- PL-231 coals occur between 400 –1200m
  - along the axis of the Reid's Dome anticline and are obvious targets for retained or enhanced permeability
  - Gas tested from sandstones interbedded with the coals at Reids Dome-1 indicate gas and pressure has been maintained within the system
  - Lab analysis of a gas sample from the Reids Dome Beds in AOE-1 indicate only 5.6% CO<sub>2</sub>



## **PL-231: Anticlinal Structural Setting**



- Surface geological mapping of the Reids Dome area indicates strike of NNE – SSW with trans-tensional offset in the central region
- The Sericold Anticline plunges gently to the north and south within the Permit. The western limb dips slightly more steeply than the eastern limb
- Several faults are evident at surface but the presence of over-pressured gas in conventional reservoirs indicate they are sealing.
- An area of 80 160 km shown in white and brown along the axis of the anticline on the adjacent map are considered shallow enough to be prospective
- Elsewhere in the Bowen Basin, anticlines have favourable permeability characteristics for CSG



## **2018 Drilling Program (November-December)**



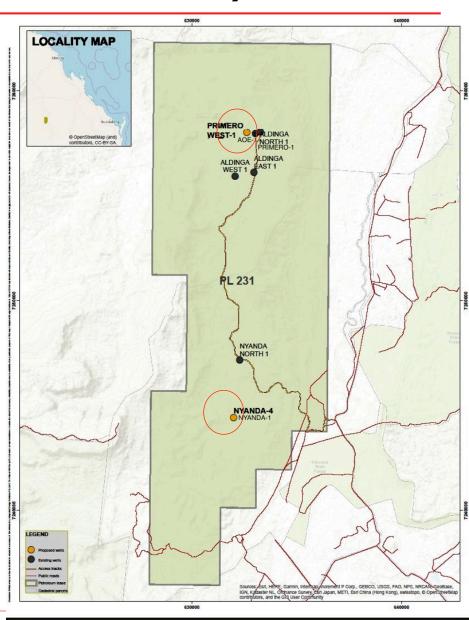
#### Two wells planned:

#### Primero West-1

- Shallow Conventional Gas Target
- Cattle Creek Formation
- Planned depth: 250m
- Located approximately 650m southwest of AOE-1 (1955 discovery well) to test the south-western extent of the Cattle Creek gas sand
- Secondary target: gas potential of previously untested zones deeper where seismic indicates better-development than other areas to the east

#### Nyanda-4

- Coal Seam Gas and Tight Gas Sands Target
- · Reid's Dome Beds
- Planned depth: 1,000m
- Located approximately 50m southwest of Nyanda-1 (drilled in 1987) to investigate both the gas potential of tight gas sands and coal seams within the Reid's Dome Beds
- Coal measures in prior wells not evaluated before
- Gas in AOE-1 in 1955 is possibly present at Nyanda-4
- Silver City Drilling expected to commence by week ending 10 November 2018

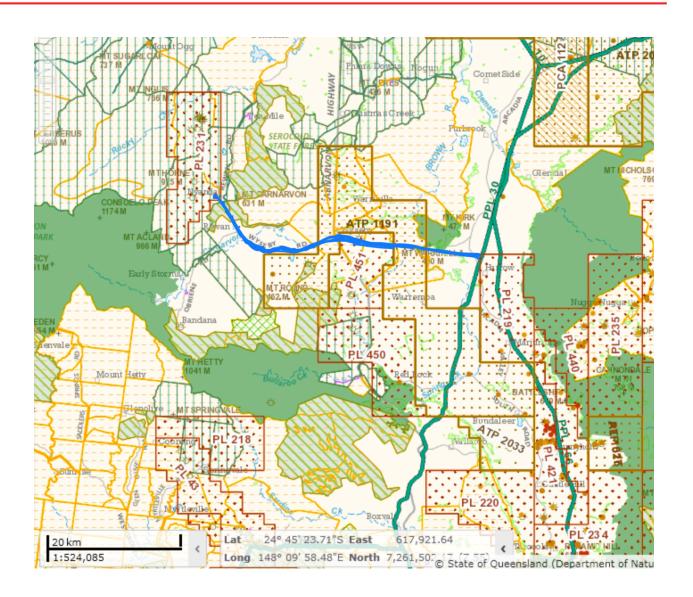




## **Possible Pipeline Route**

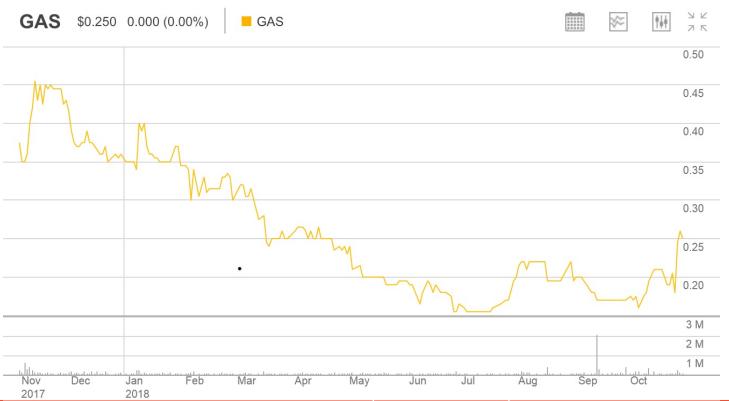


- Connecting PL 231
   with the Queensland
   Gas Pipeline (PPL
   30/116)
- Utilizing road reserve where possible – incl. Rewan Road and Wyseby Road
- Possible synergies with Santos/Origin's ATP 1191 and PL 451
- Approximately 47km of new pipeline to connect with Queensland Gas Pipeline network



## **Capital Structure & Market Cap**





Shareholder	Shares Held	%
Founders, Directors & related entities	80.8 million	60%
Public	54.0 million	40%
TOTAL*	134.8 million	100%
Market Cap	\$39 million	(at \$0.29/share)

<sup>\*</sup>Excludes 7 million management options exercisable between \$0.20 and \$0.60 with vesting conditions

# **Summary**



ACTIVITY IS IMMINENT	Drilling to commence by 10 November, subject to weather		
POTENTIAL NEW CSG PROVINCE	The PL 231 area has been overlooked and never explored for CSG before		
GOOD EVIDENCE FOR SUCCESS	Conventional gas and coal seams in historical wells in Reid's Dome since 1955		
THREE CHANCES OF SUCCESS FROM TWO WELLS IN LATE 2018	<ul> <li>Primero West-1: Shallow conventional gas target identified in seismic data</li> <li>Nyanda-4: CSG target identified from 1987 drilling results</li> <li>Nyanda-4: Known conventional gas targets within the Reid's Dome Beds</li> </ul>		
NOT LONG TO WAIT FOR RESULTS	<ul> <li>Drilling expected be completed by mid-December 2018, subject to weather</li> <li>Indicative results of drilling will be released to ASX</li> <li>Further testing will take three-four months for detailed analysis</li> </ul>		
EAST COAST GAS MARKET NEEDS THE GAS	<ul> <li>Wood Mackenzie says a "triple whammy" of high oil prices, tight LNG market conditions and a strong US dollar will put upward pressure on gas prices</li> <li>East coast gas market tightening further with the announcement of a freeze on Arrow's \$400 million Tipton project expansion</li> <li>Wood Mackenzie notes that Asian LNG prices are trending towards a "netback" price in Australia of about \$15 a gigajoule</li> </ul>		



# Contact



**Left**: AOE-1 discovery well (at Reid's Dome within PL 231), drilled 1954-55 where the Cattle Creek gas sands were discovered, located 650 metres northeast of the planned Primero West-1 expected to spud in November 2018.

**Below**: Nyanda-1 well (within PL 231), drilled in 1987 prior to interest in coal seam gas in Australia encountered gas shows while drilling through coal seams. The planned deeper Nyanda-4 well will be located 50m southwest of Nyanda-1, following drilling of Primero West-1.

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**ASX: GAS**