



Reid's Dome Gas Project: **2018 Drilling Program and Analytical Outcomes**

21 January 2019

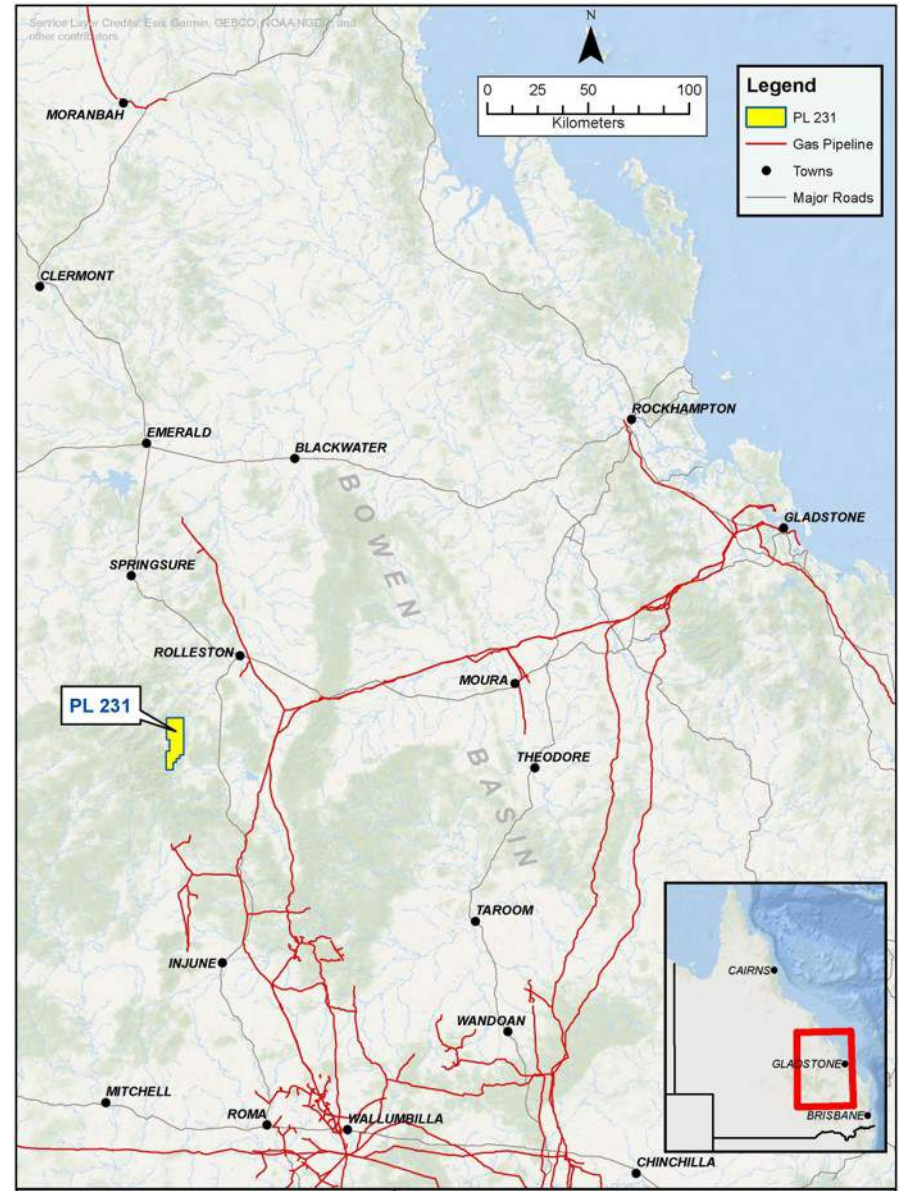
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Highlights: REID'S DOME UNLOCKED

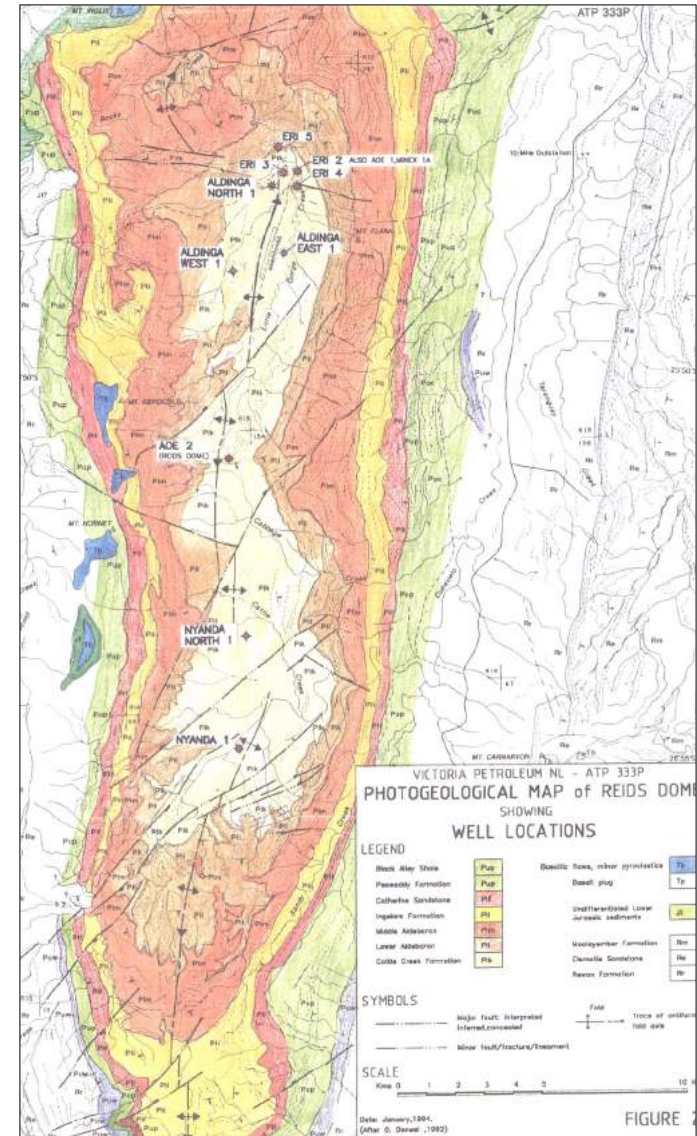
PRODUCTION LEASE & PIPELINE SURVEY LICENCE	<ul style="list-style-type: none"> PL-231 is located in central Queensland, granted under the 1923 Act over 181 km² on the elongated apex of the Springsure-Sericold anticline for a 30 year term from 15/12/2005. Pipeline Survey Licence PSL-2028 was granted for a 2 year term from 01/08/2018
OWNERSHIP	<ul style="list-style-type: none"> State Gas is Operator with 80% of PL-231 – transitioning to 100% under the terms of the Joint Operating Agreement (Offer/Acceptance Notices for remaining 20% issued December 2018)
PROVEN GAS FLOWS	<ul style="list-style-type: none"> 17 wells drilled between 1955 – 2018. Gas flows both from sandstone reservoirs in the Cattle Creek Formation and Reid's Dome Beds
NEW PROVINCE - LARGE CSG PROJECT	<ul style="list-style-type: none"> Permian Reid's Dome Beds coal measures are extensive throughout the entire PL-231
CSG CONFIRMED IN 2018 DRILLING	<ul style="list-style-type: none"> Nyanda-4 (2018) was the first CSG well drilled in Reid's Dome/PL 231 Nyanda-4 allowed first modern suite of core and logs over Reid's Dome Beds
CONVENTIONAL/ TIGHT GAS	<ul style="list-style-type: none"> Cattle Creek Formation: 3-way dip closed structural and stratigraphic traps, over-pressured. Primero West-1 discovery in November 2018 Reid's Dome Beds: ~1500m thick section with multiple prospective, over-pressured sandstone reservoirs in an anticlinal setting. Regional conventional gas analogues nearby at APLNG's Westgrove/Merivale gas fields
SIGNIFICANT CSG PROJECT CONFIRMED IN REID'S DOME BEDS	<ul style="list-style-type: none"> CSG confirmed in 40.4m of net coal and 25m of carbonaceous shale + conventional/tight gas in sands and shales of Reid's Dome Beds. Desorption ongoing, average gas content to date of 11.6m³/t in cored coal seams from 392m + gas bubbling/hissing from sandstones in Nyanda-4 core
CONSIDERING PARTNERING AND OTHER TRANSACTIONS	<ul style="list-style-type: none"> State Gas operates successfully with a small team and limited resources and has received initial approaches and interest to progress the Reid's Dome Gas Project, including partnering and corporate transactions. The Board seeks to ensure that discussions include all qualified and interested parties

Reid's Dome - Location

- Reid's Dome was discovered in 1930 when staff of the Geological Survey of Queensland (GSQ) undertook a geological reconnaissance on the Springsure Anticline
- John H. Reid of the GSQ described in 1931 a "closed structure or dome of great amplitude in marine and lacustrine sediments of Permian age"
- PL-231 lies ~50 km south west of Rolleston over the crest of the Springsure-Sericold anticline (Reid's Dome)
- **181 km²** covering a classic north-south dome structure
- <50 km from Queensland Gas Pipeline network
- Only two landowners within areas of interest
- Close to existing gas processing facilities at Rolleston and Arcadia



- Surface geological mapping of the Reid's Dome area indicates strike of NNE – SSW with trans-tensional offset in the central region
- The **Springsure-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 is considered shallow enough to be prospective
- **Elsewhere in the Bowen Basin, anticlines have favourable permeability characteristics for CSG (e.g. Scotia/Peat, Fairview, Spring Gully)**



Nyanda-4 Results

- Reid's Dome Beds CSG and Tight Gas Sands objectives
- Total depth: 1,200m
- Cored-zone: 150m of coring from 394m
- Gas bubbling from coal core, sandstones hissing
 - Net coal in core: 11.3m
 - Net coal in well 40.4m
 - Carbonaceous shales: 25m
 - Total: 65m**
- **Average Gas content: 11.6 m³/t** (at 7 weeks' desorption), gas content still increasing with ongoing desorption in the laboratory. Gas content for thickest seams currently ~**13 m³/t**
- **Permeability:** DSTs indicate permeability in coal seams in cored zone of Reid's Dome Beds
- **Pressure:** DST data indicates the Reids Dome Beds are ~100 psi over-pressured with respect to hydrostatic
- **Correlation with AOE-1 indicates additional coal below 1200m**



Reid's Dome Beds Gas Composition and Trends

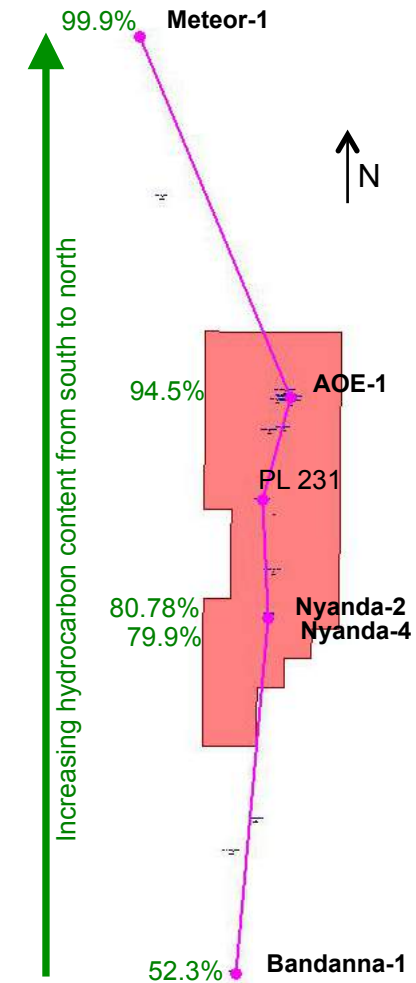
Nyanda-4 Coal Seam Gas (cored-zone) Latest CH₄-CO₂ Result:

- **Weighted Average:** 80% CH₄, 20% CO₂
- **Thickest seams:** 87.6% CH₄, 12.4% CO₂
- **Trend:** CO₂ content generally reducing with depth (based on core samples)
Trend correlates with AOE-1, which showed 0.7% CO₂ at 1,365m and Westgrove-3, which showed <3% CO₂ at 3,750m

Local Reid's Dome south-north gas compositional trend:

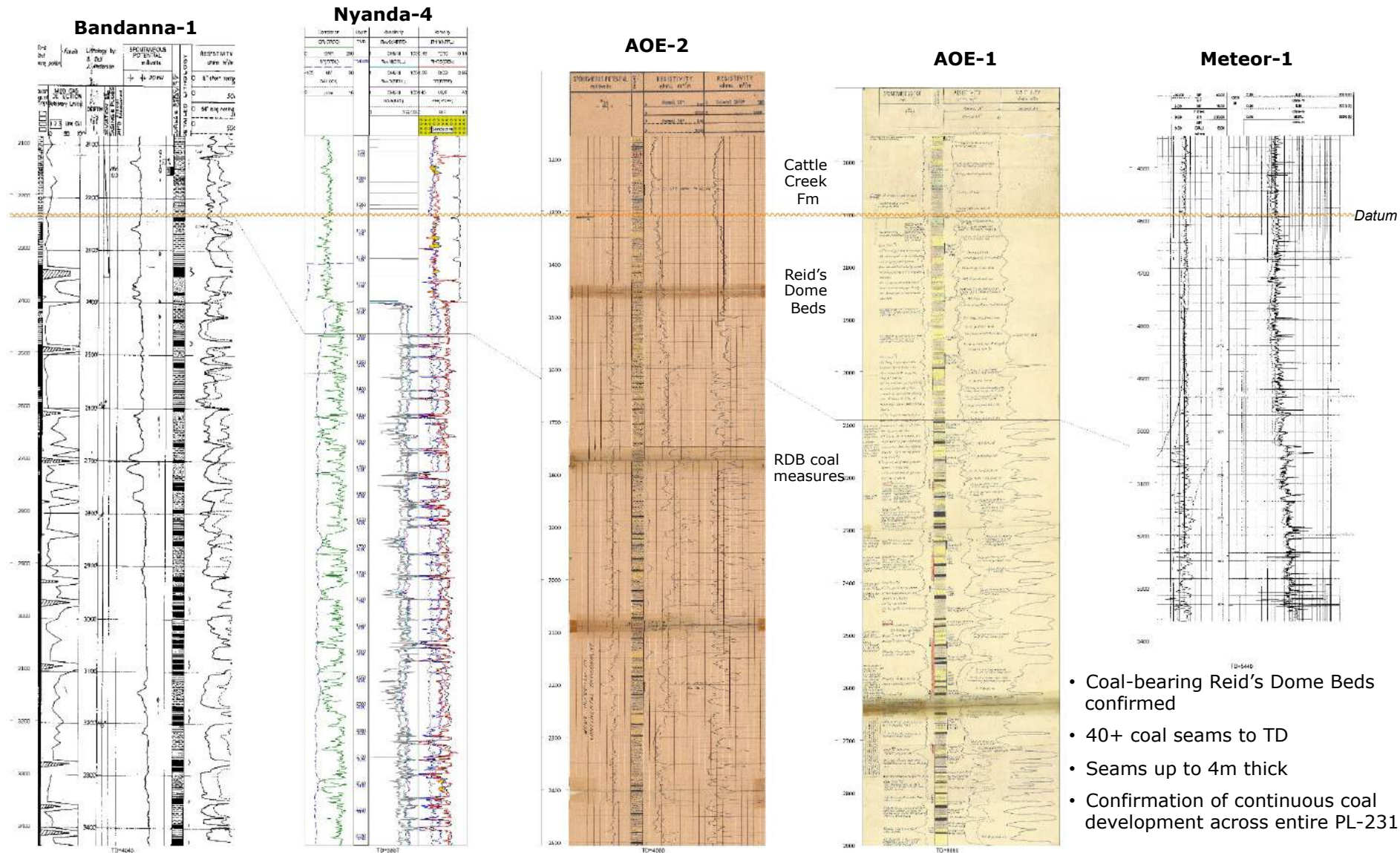
Wells listed south to north	Methane (CH ₄) (%)	Ethane (%)	Propane (%)	Higher hydrocarbons (%)	CO ₂ (%)	N ₂ (%)
Bandanna-1 (RDB sandstone)	45.00	5.10	2.20	1.25	45.60	0.86
Nyanda-4 (latest) (RDB coal)	79.9	n.a	n.a	n.a.	20.1	n.a.
Nyanda-2 (Cattle Creek sst)	80.78	0.00	0.00	0.00	18.29	0.93
AOE-1 (RDB sandstone)	82.70	11.80	0.00	0.00	5.60	1.90
Meteor-1 (RDB coal)	82.15	13.70	2.00	0.00	0.10	0.00

Hydrocarbon Content Trend



- Gas samples from DST's of sandstone reservoirs and two coal desorption
- South-North trend: CO₂ diminishing from south to north across PL-231 area

Nyanda-4 Well Correlation



- **Well-cleated coal and shale zones with open fractures**



Coal core and carbonaceous shale samples from upper Reid's Dome Beds within Nyanda-4

Coal is generally bright black, and well cleated

Coal occurs within dark grey carbonaceous claystone, with sharp upper and basal contacts

Minor pyrite and sulphur crystals

Background sediments mostly fine grained heterolithic sandstone, siltstone and shale

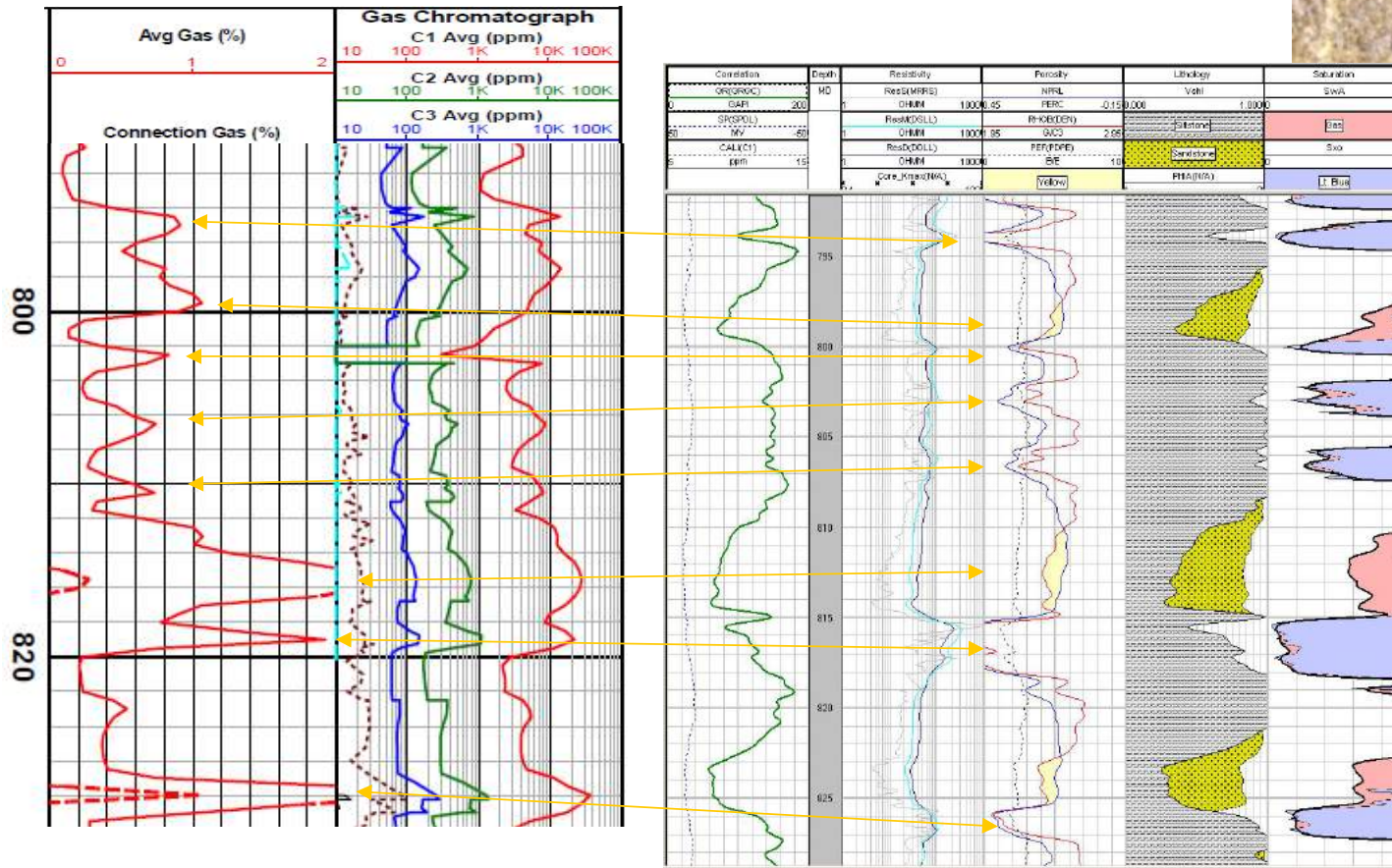
Open fractures

Highly mature sediments most likely deposited within lower coastal plain to estuarine conditions

Fractured shale from Nyanda-4



Nyanda-4 Conventional Gas



Key: Yellow stippled = sandstone reservoir,
Pink = gas/condensate, Light Blue = coal

Condensate / gas bubbles on sandstone core from Nyanda-4 under UV light

- **Conventional gas:** Gas and condensate noted bubbling and hissing from sandstones in Nyanda-4 core samples
- **Numerous gas peaks in logs:** Associated with both coals and sandstones

Regional Analogues: APLNG's Merivale Gasfield and Westgrove Deep Gas Play (PL 44)

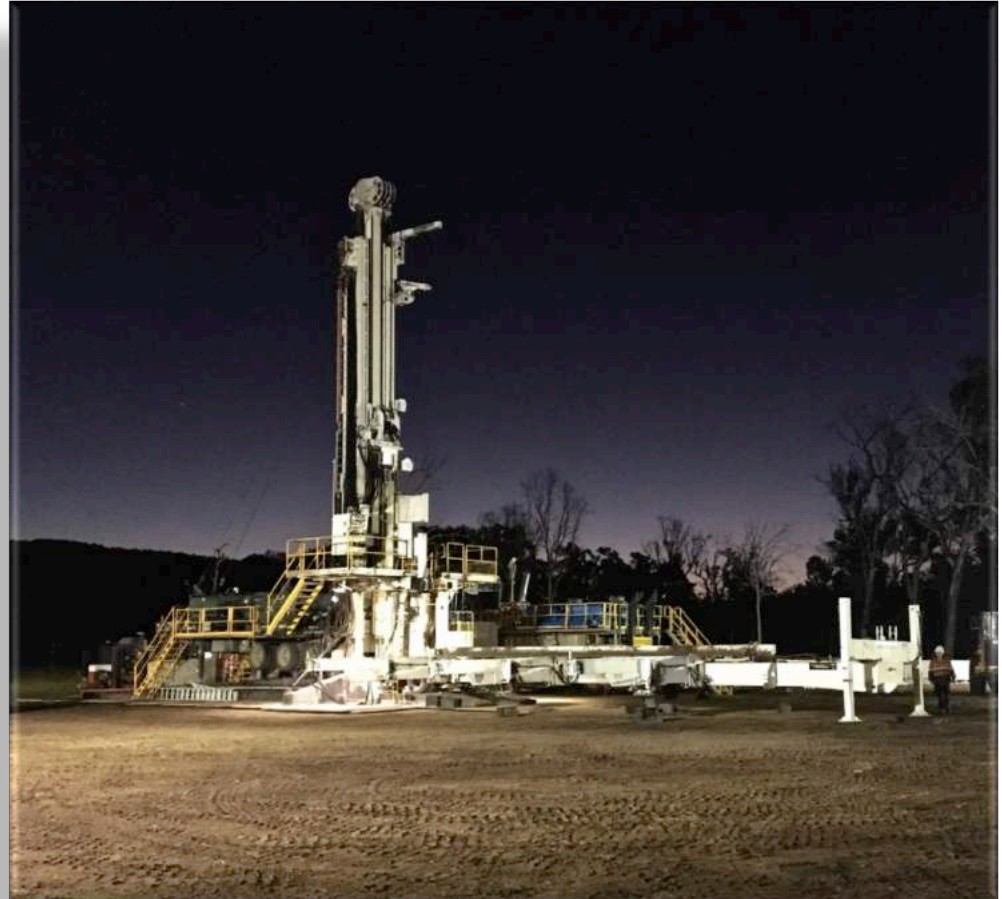
- **Merivale gasfield:**
 - Located on-trend 40km south of PL 231
 - Reservoir: Reid's Dome Beds conventional sandstone
 - Depth: >1492m
- **Westgrove Deep tight gas play:**
 - Located beneath Merivale and on-trend with PL 231
 - Reservoir: Reid's Dome Beds tight sandstones
 - Gas column penetrated by Westgrove-3 (1963), gas to surface from ~3750m
 - 200m gross gas column penetrated (thought to be only partially penetrated)
 - Gas composition of 97% methane with ~3% inerts
 - Westgrove-9 appraisal well currently being drilled by APLNG (spudded late 2018)

PL 231 Reid's Dome Deep prospect:

- Reservoir: Reid's Dome Beds conventional and tight sandstones from 450m
- Gas to surface AOE-1 (1955) from 1368m, gas in core (flame test) 2690m
- Prospective area: 50km²-100km²
- Prospective section: >2500m (450m-3000m+)
- Estimated net reservoir section: >50m

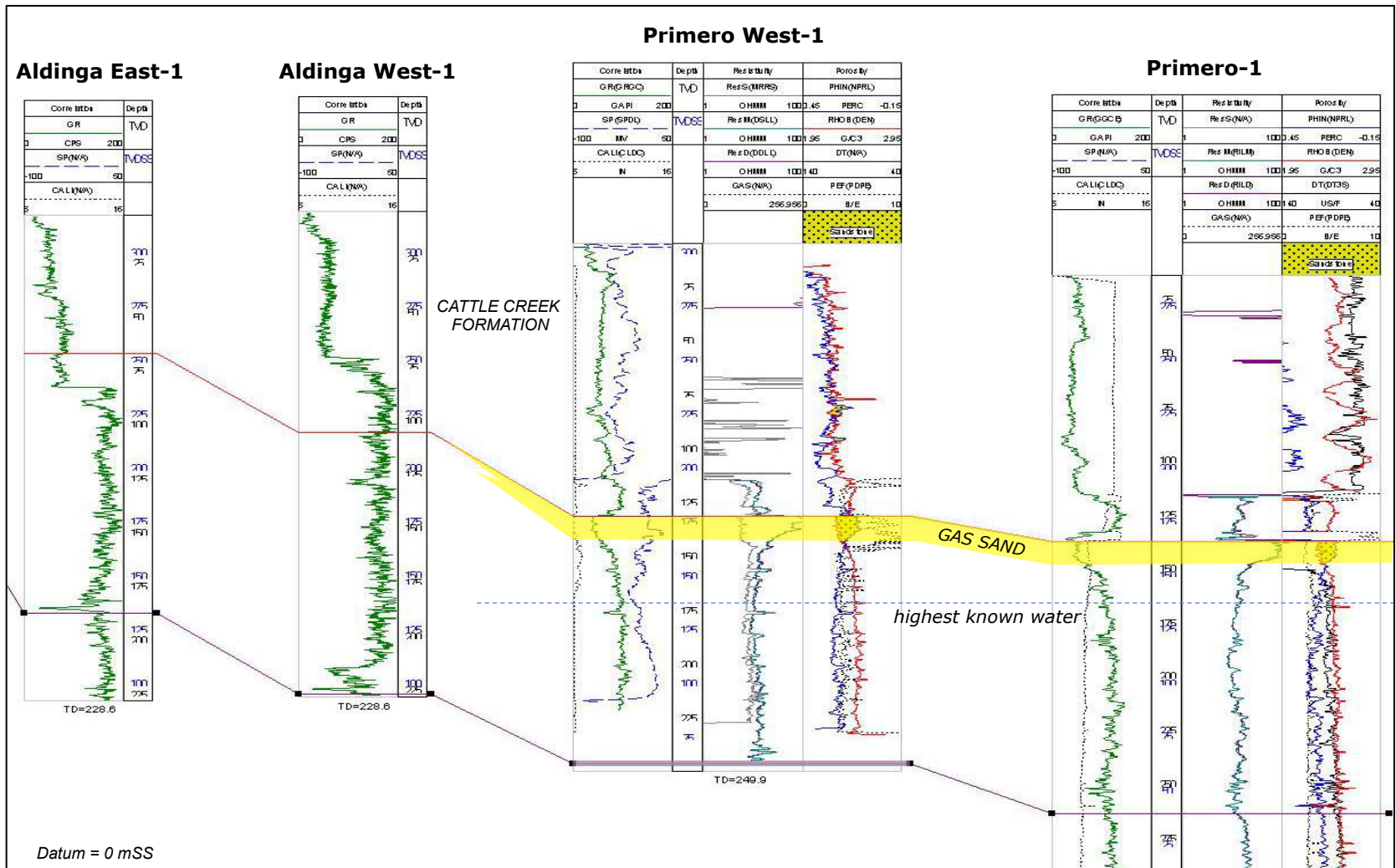
Primero West-1 Results

- Successfully drilled in accordance with the requirements of the Joint Operating Agreement to appraise the “Primero Gas Sand” in the Cattle Creek Formation
- Located ~650m west of AOE-1
- Shallow conventional reservoir
- Challenging drilling with over-pressure at shallow depth
- Gas sand encountered close to prognosis. Quick-look petrophysics indicate a gas-bearing zone of 7.5m
- Gas flow of 0.436 mmscf/d in line with expectations
- Gas composition similar to offset well data, with 96.7% methane
- Geological and reservoir engineering review ongoing



SCD Rig-25 on location at Primero West-1

Primero West-1 Well Correlation



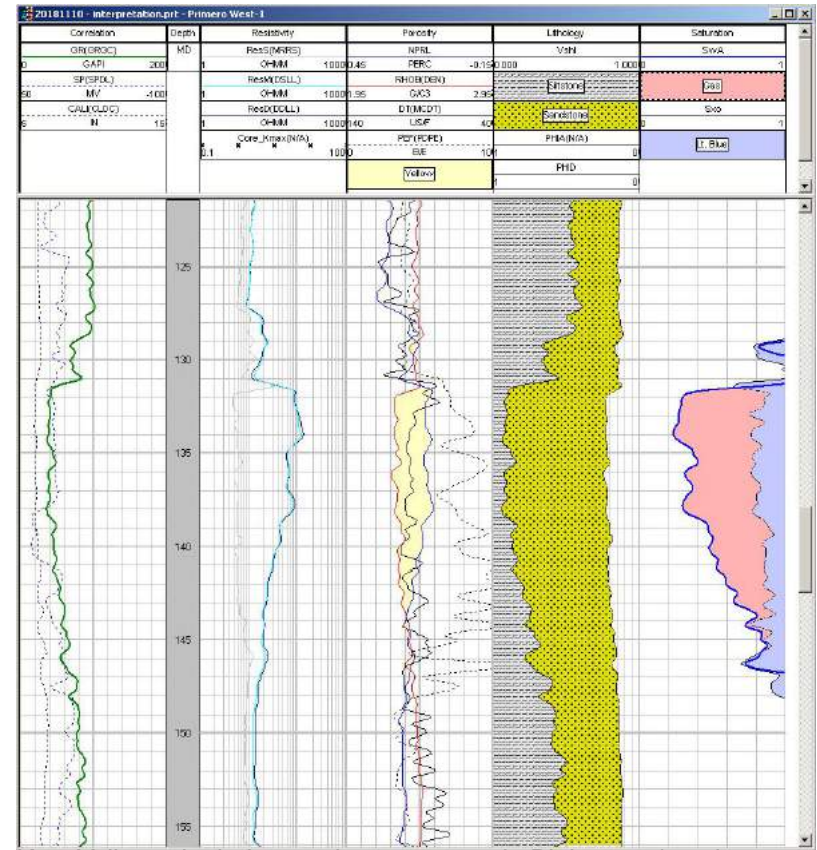
Primero West-1 (Cattle Creek) Drilling Results

• Primero West-1 Results

- Shallow Conventional Gas Target
- Cattle Creek Formation (from 130m)
- Total depth: 250m

Cattle Creek Formation gas play:

- Conventional gas encountered in Primero West-1 from 131.5 metres within the Cattle Creek Formation
- Net gas-bearing zone of up to 12.5 metres
- Maximum gas flow rate of 0.436 mmscf/d through a 48/64" choke
- Shut-in wellhead pressure of 165 psi
- Reservoir pressure ~100 psi over hydrostatic
- Methane content: 96.75%, similar to AOE-1

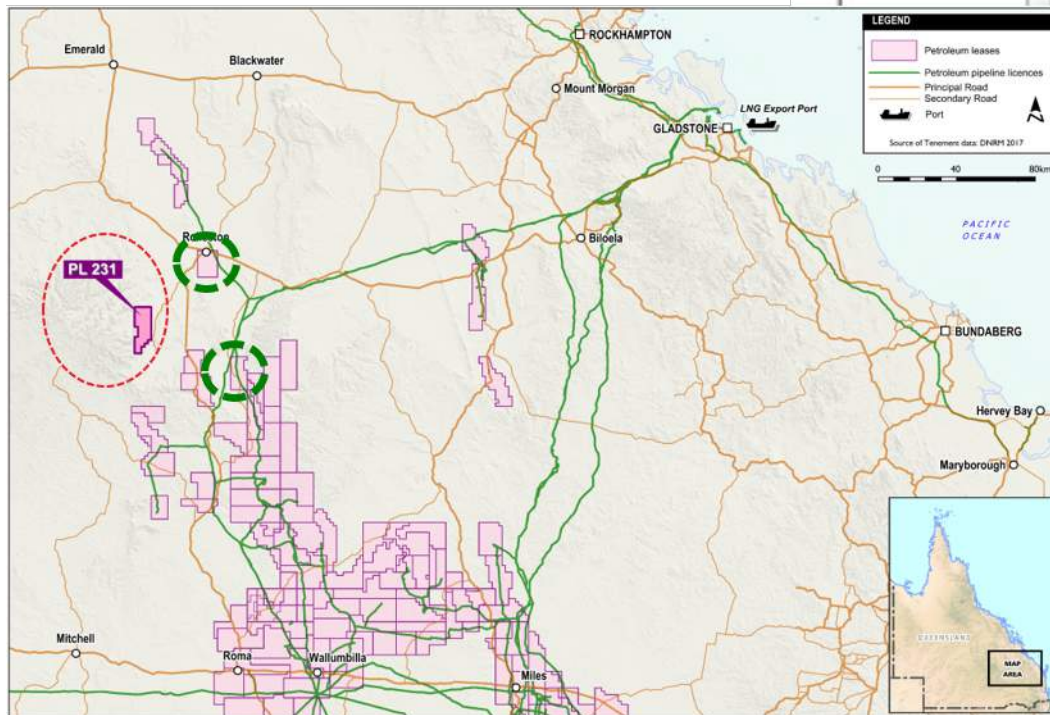


Quick-look
petrophysics

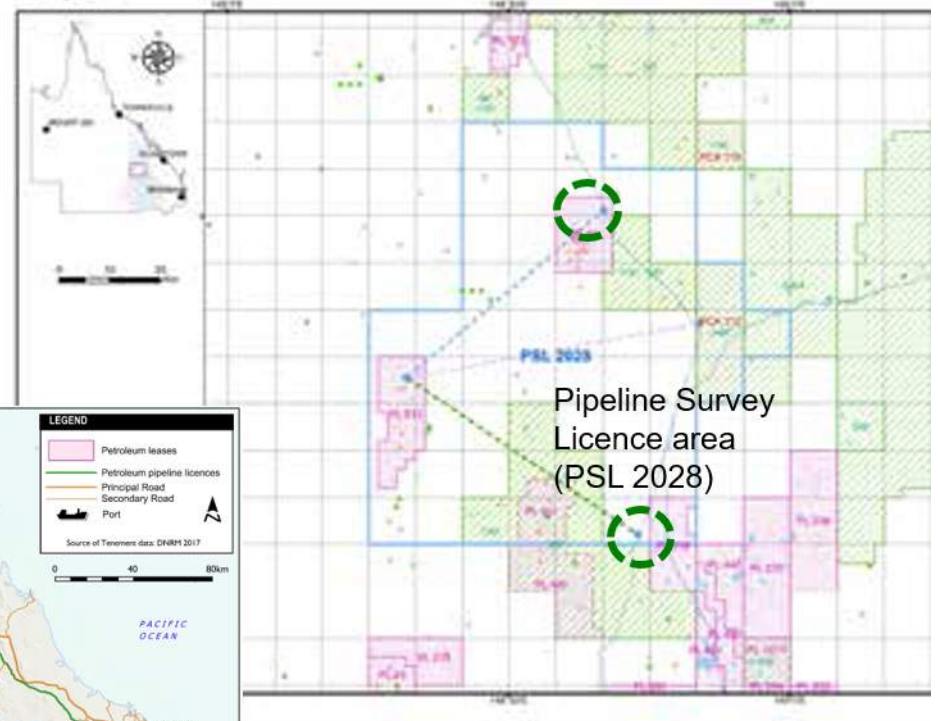


"Primero"
sandstone

- ~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



Pipeline Survey
Licence area
(PSL 2028)

- 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



An Important Strategic Juncture

- State Gas operates successfully with a small, focused team
- State Gas has received approaches and interest from experienced industry participants to progress the Reid's Dome Gas Project
 - Partnering (asset-level) and corporate (company-level) transactions.
- The Board aims to ensure that discussions include all qualified and interested counterparties

Next Steps

- Finalise analytical laboratory data from 2018 drilling program
 - e.g. receive final gas content data following complete desorption of gas from samples
- Complete the transition to 100% ownership of PL 231
 - Offer/Acceptance Notices for remaining 20% were issued December 2018
- Continue discussions with interested parties regarding possible asset-level and corporate transactions
- Consider the available risk/return-based outcomes for State Gas shareholders during the current quarter

A Simple Capital Structure

Shareholder	Shares Held	%
Founders, Directors & related entities	80.8 million	60%
Public	54.0 million	40%
TOTAL*	134.8 million	100%

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

Contacts

Silver City
Rig-25 drilling
Nyanda-4 during
November 2018



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