

# Investor morning

26 November 2013



## **Disclaimer**

This presentation contains forward looking statements that are subject to risk factors associated with oil, gas, geothermal and related businesses. It is believed that the expectations reflected in these statements are reasonable but they may be affected by a variety of variables and changes in underlying assumptions which could cause actual results or trends to differ materially, including, but not limited to: price fluctuations, actual demand, currency fluctuations, drilling and production results, reserve estimates, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory developments, economic and financial market conditions in various countries and regions, political risks, project delays or advancements, approvals and cost estimates.

All references to dollars, cents or \$ in this presentation are to Australian currency, unless otherwise stated. References to “Beach” may be references to Beach Energy Limited or its applicable subsidiaries.

Unless otherwise noted, all references to reserves and resources figures are as at 30 June 2013 and represent Beach’s share.

## **Competent Persons Statement**

This presentation contains information on Beach’s Reserves and Resources which have been compiled by Mr Tony Lake, who is a full time employee of Beach, is qualified in accordance with ASX listing rule 5.11 and has consented to the inclusion of this information in the form and context in which it appears.

# Welcome

Chris Jamieson – General Manager Investor Relations



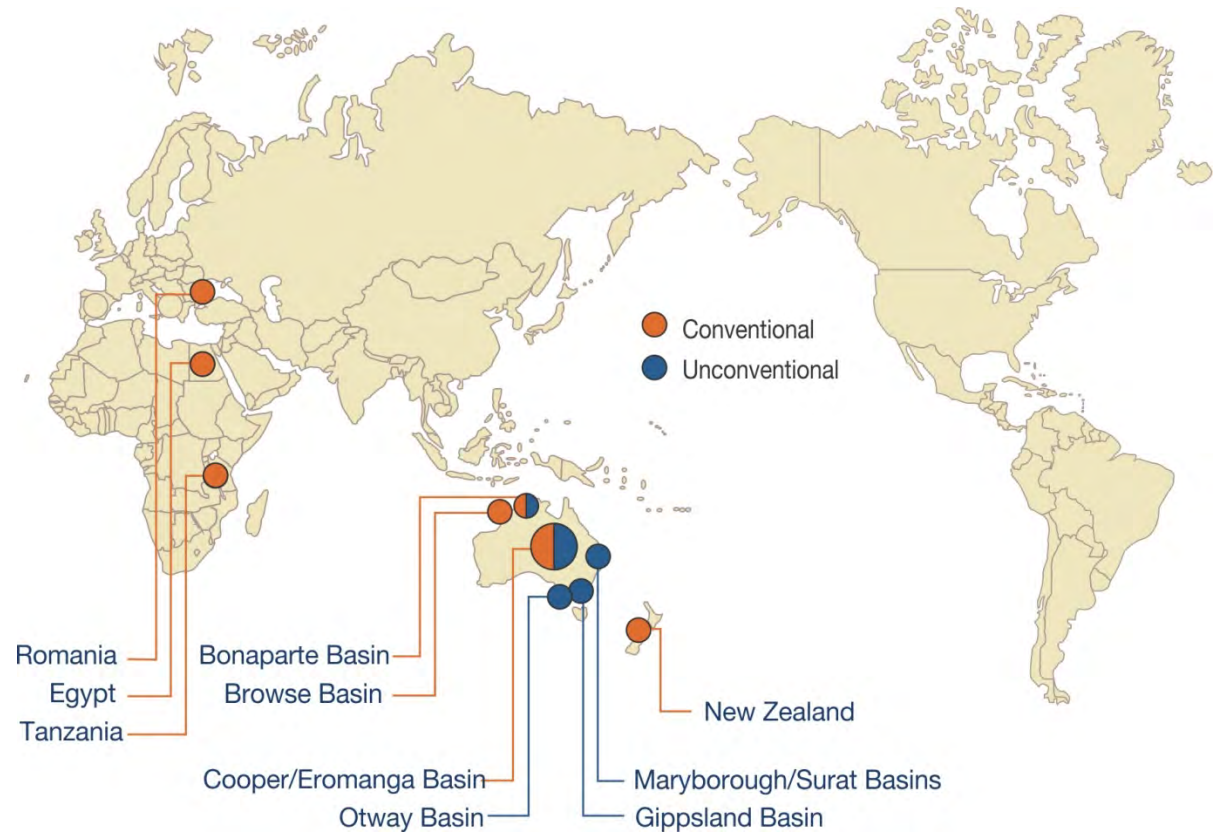
# Welcome and housekeeping



Time	Topic	Presenter
9:00-9:10am	Welcome	Chris Jamieson
9:10-9:30am	Strategic gas overview	Reg Nelson
9:30-9:50am	Operational overview	Neil Gibbins
9:50-10:10am	Cooper Basin – Western Flank	Mike Dodd
10:10-10:25am	International	Simon Brealey
10:25-10:30am	Q&A	All
10:30-11:00am	Morning tea	
11:00-11:15am	Eastern Australian gas market	Steve Masters
11:15-11:30am	Cooper Basin – Delhi (SACB JV & SWQ JVs)	Mike Dodd
11:30-12:00pm	Cooper Basin – Nappamerri Trough Natural Gas	Carrie Trembath
12:00-12:15pm	Financial	Peter Sandery
12:15-12:25pm	Q&A	All
12:25-12:30pm	Close	Reg Nelson
12:30-1:30pm	Lunch	

- ASX 100 company with a market capitalisation of ~A\$1.8 billion
- Largest Cooper Basin oil producer, sixth largest in Australia
- Strong balance sheet with cash of \$402 million\*
- Undrawn secured debt facility of A\$320 million
- Record September quarter in terms of revenue and oil production

## Key global operations



\* As at 30 September 2013



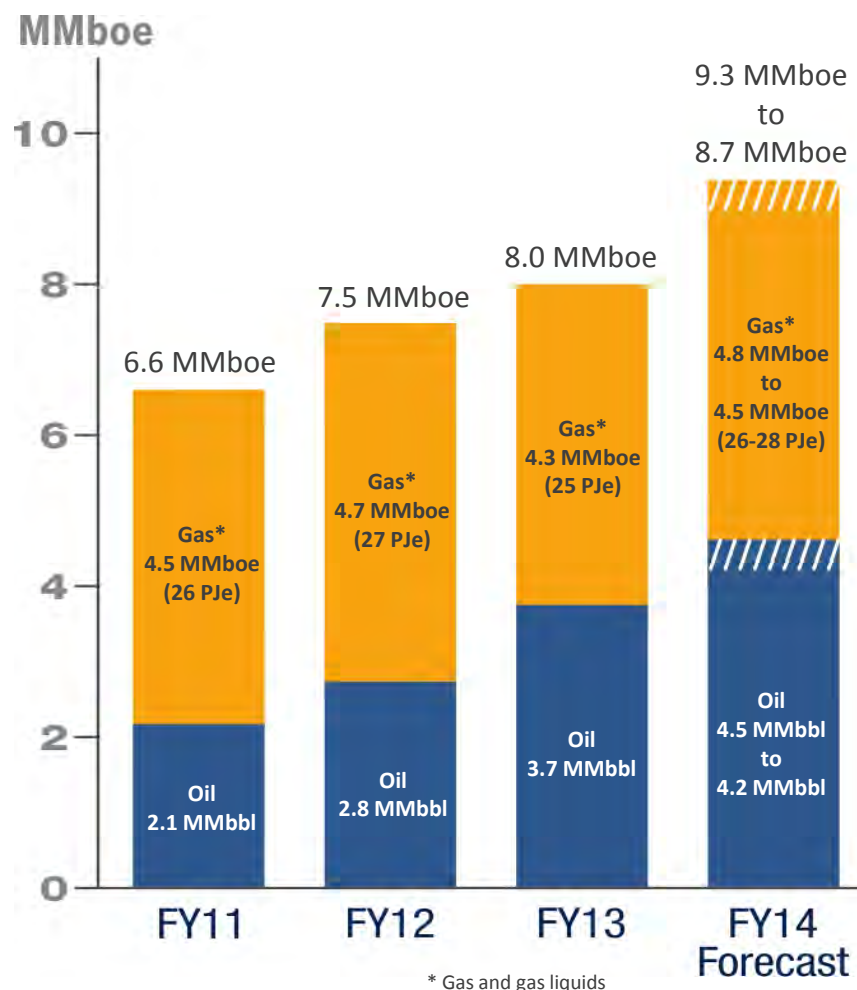
# Actual and forecast production

## Q1 FY14

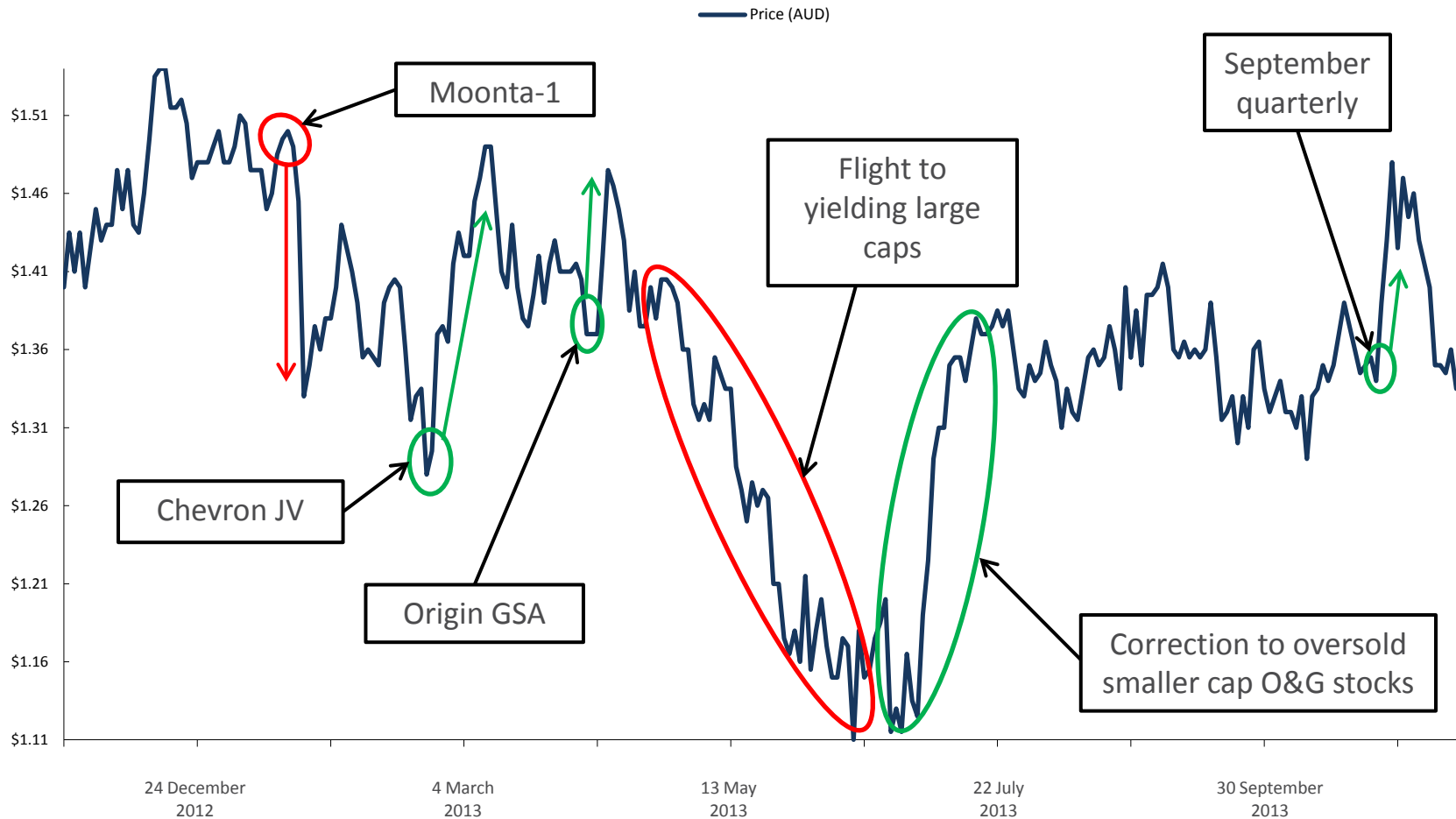
- Record total revenue of \$270 million
- Record net oil production of 1.3 MMbbl
- Record net oil sales volumes of 1.6 MMbbl
- Participation in 27 wells with a success rate of 80%

## FY14

- Production guidance up 10-15% on FY13
- Up to 127 exploration and development wells



# Share price insights



# Strategic gas overview

Reg Nelson – Managing Director







## Is a....

- Safety, people and environment first company
- Global oil and gas explorer and producer with unrivalled cash generation amongst its peer group
- Prudent portfolio manager

## Will seek to....

- Deliver consistent superior shareholder returns in terms of capital appreciation and yield
- Maintain growth in its high margin oil business
- Leverage the Australian east coast market to build a long-term profitable gas business

# Unconventional positioning

- Strategically targeted three key basins for unconventional acreage
- Cooper Basin activity:
  - Nappamerri Trough Natural Gas with Chevron and Icon
  - SACB JV unconventional REM and BCG plays
- Otway and Bonaparte Basins targeting gas and gas liquids
- All areas strategically close to necessary infrastructure
- Gas demand trending upward



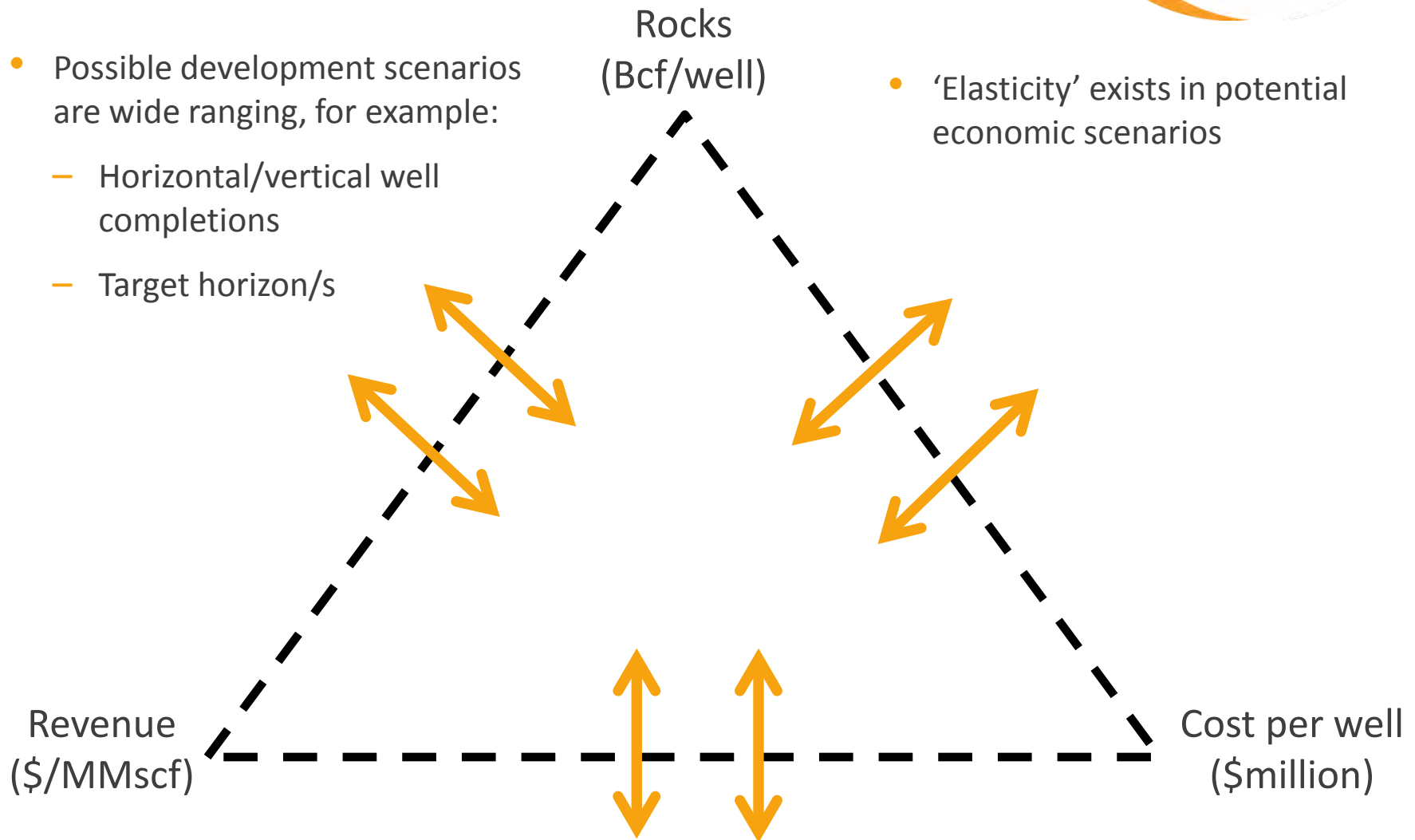


# Well commercialisation drivers

- Possible development scenarios are wide ranging, for example:

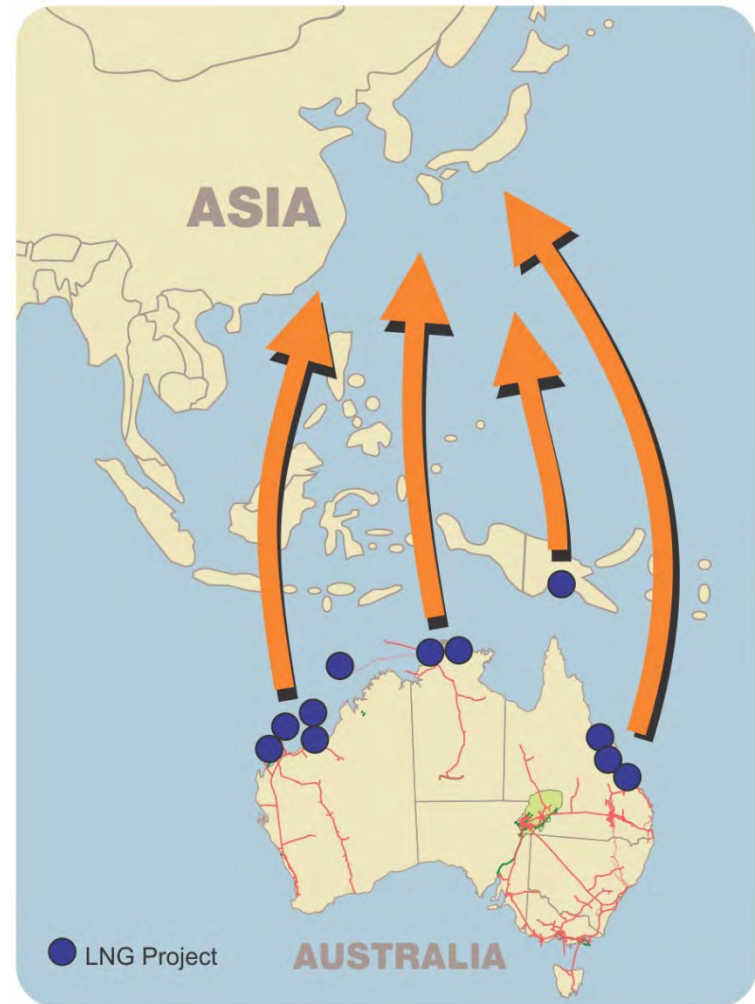
- Horizontal/vertical well completions
- Target horizon/s

- 'Elasticity' exists in potential economic scenarios



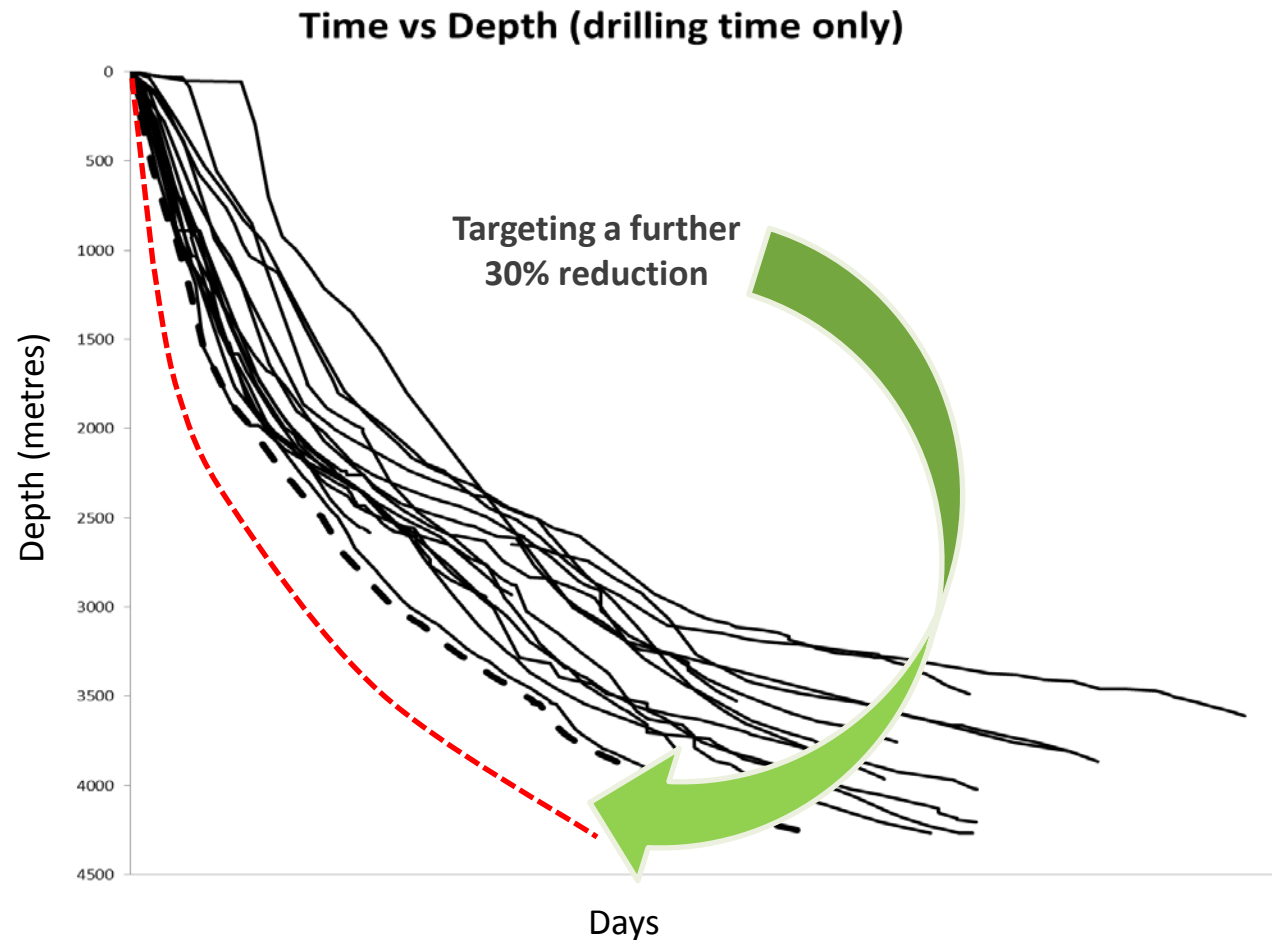
# Gas price drivers

- Australian, and PNG, LNG to be a major supplier of energy to Asia Pacific region
- Rapid growth projected in ex-Gladstone LNG capacity
- Upstream gas shortages looming for domestic and LNG markets
- Cooper Basin strategically located to service Gladstone and the east coast
- Resultant upward pressure on gas pricing
- Higher gas prices likely to deliver more upstream activity:
  - Positions Beach's multi-basin portfolio to supply various gas markets



# Costs per well

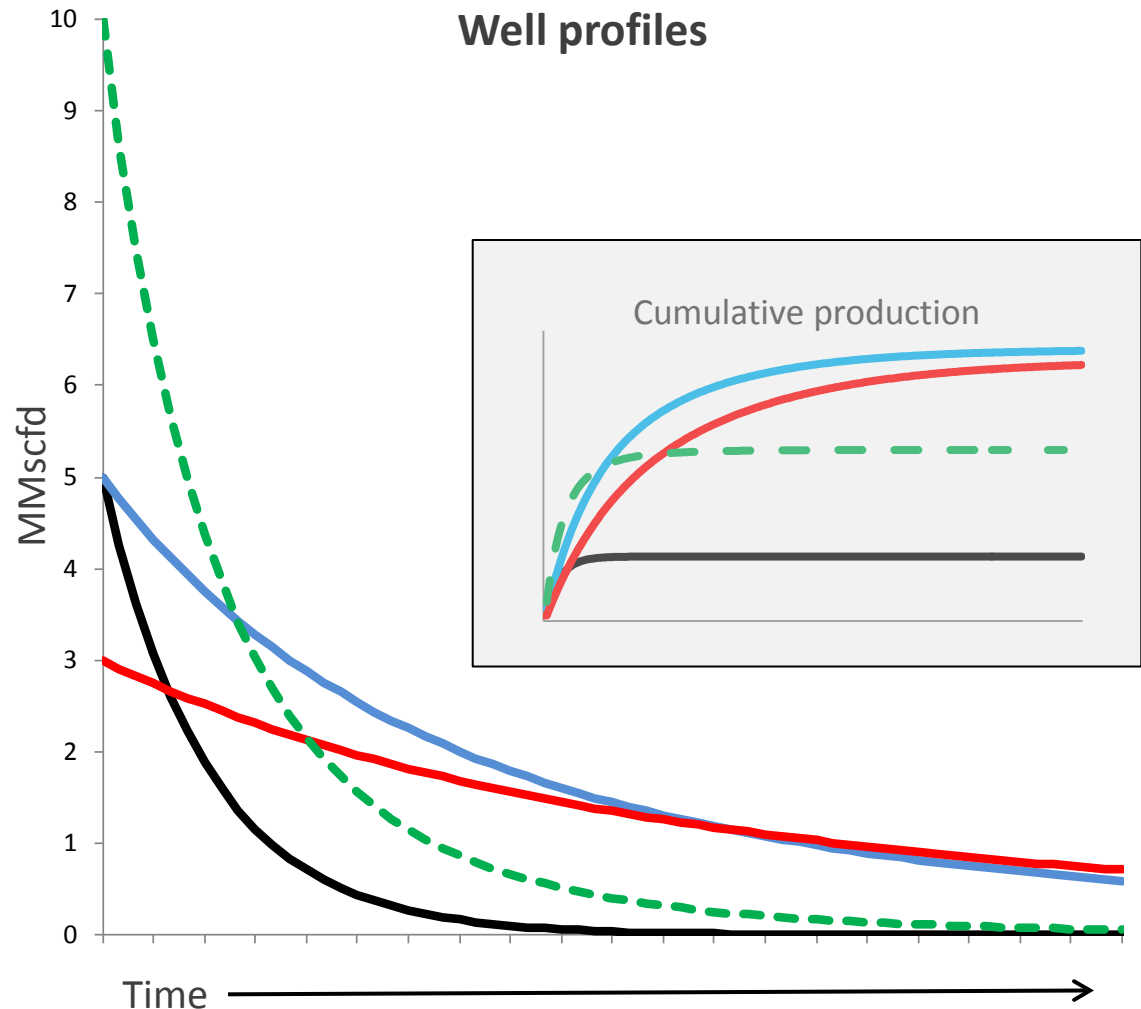
- Cost reduction to be driven by:
  - Pad drilling
  - Improved drilling times
  - No/minimal coring
  - Scale
- Indicative development well cost target (including fracture stimulation):
  - \$8-10 million for a vertical well
  - \$10-12 million for a horizontal well





# Illustrative well profiles

- Initial production rate is not the key to commerciality
- The gap between exploration and production is reduced through improving well profiles
- We are seeking to find the most efficient combination of Bcf and costs per well
- Longer term production tests to be undertaken in pilot production and appraisal phase



# Cracking the code

- Estimated ultimate recovery per well the main challenge for commerciality
- Well profiles now the key focus on all projects
- Uncovering 'sweet spots' with focused activity around them
- Process improvements and technology to drive efficiencies
- The right partnerships with the relevant expertise



# Operational overview

Neil Gibbins – Chief Operating Officer



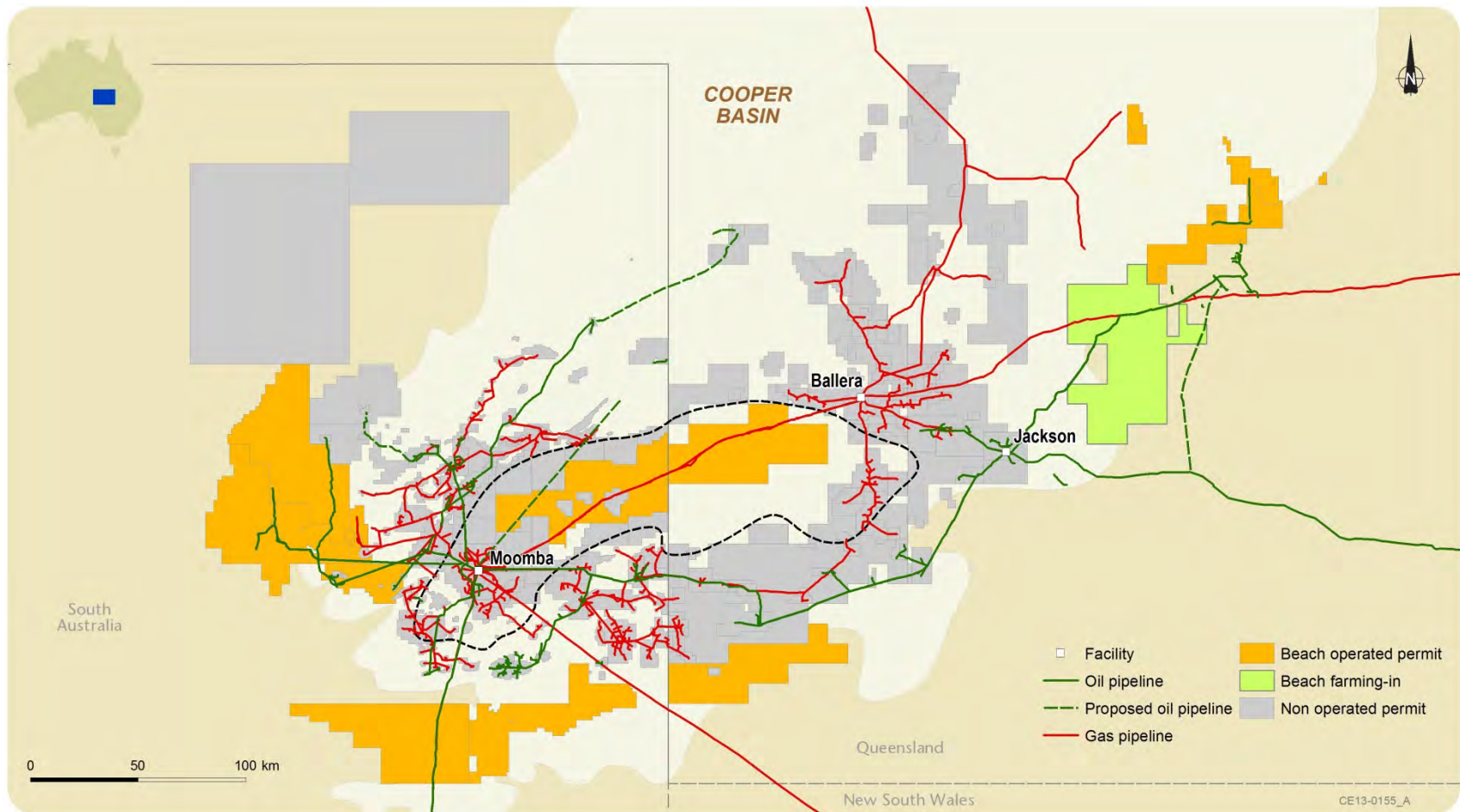


# The Cooper Basin

- Prolific acreage position
- Main oil and gas production, reserve and resource contributor to Beach
- Largest onshore oil and gas producing province in Australia
- Australia's third largest oil producing basin
- Established infrastructure with access to markets
- Significant volumetric and value growth potential:
  - Conventional gas infill
  - Basin centred gas
  - High margin oil exploration and development

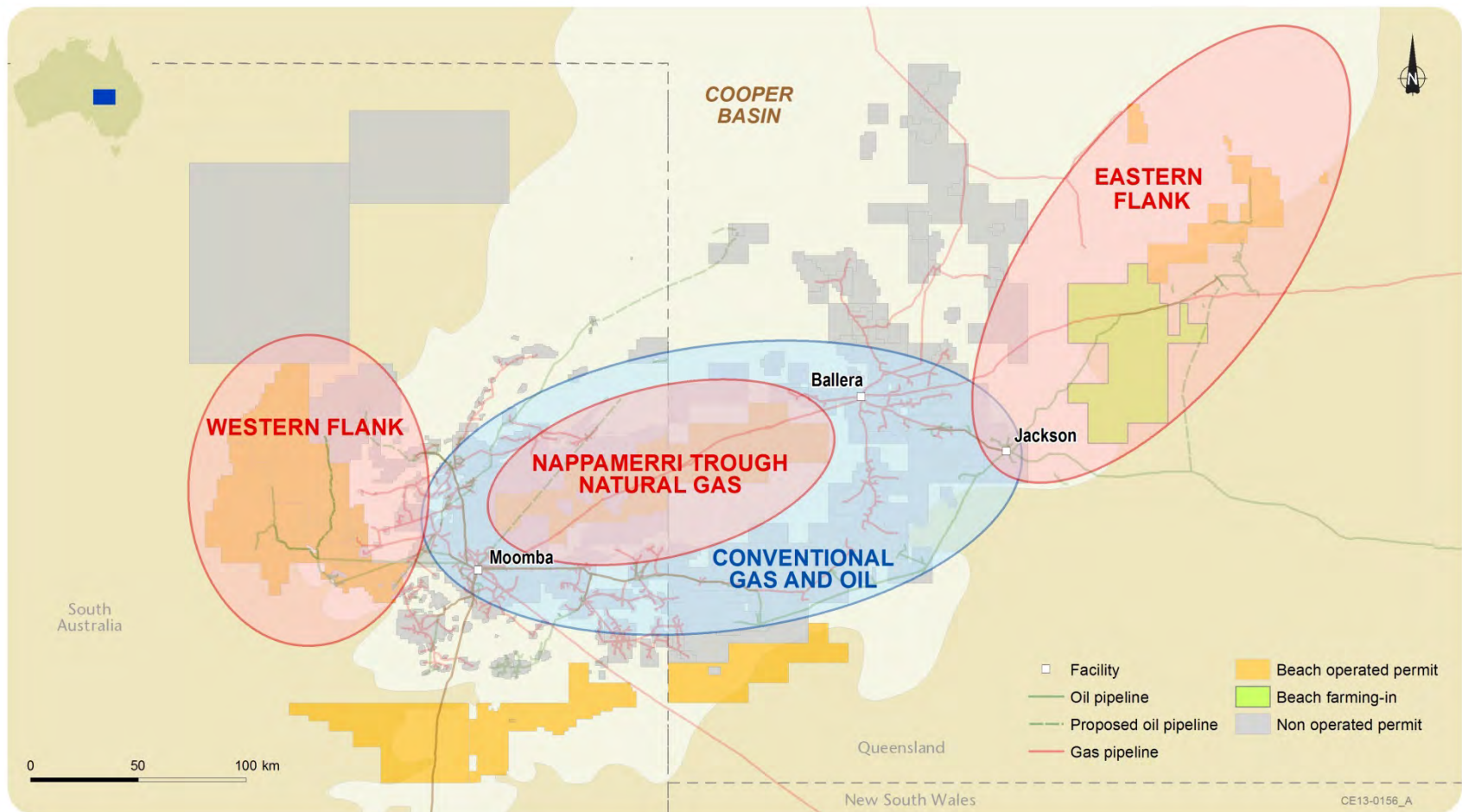


# Cooper Basin acreage





# Cooper Basin acreage



# The Nappamerri Trough

- Multiple exposure to tight gas and shale opportunities
- Nappamerri Trough Natural Gas with Chevron and Icon Energy:
  - 13 vertical and two horizontal wells
  - Eight wells fracture stimulated
  - Four flow tested
- SACB JV unconventional focus on REM and BCG plays:
  - Nine vertical wells and one horizontal well
  - Three wells fracture stimulated
  - Three wells flow tested
  - One tied-in to existing infrastructure



# FY14 Capital expenditure guidance



	Capex (\$ million)	Wells	Seismic		Expected reserves additions
			2D – km	3D – km <sup>2</sup>	MMboe
<b>DEVELOPMENT</b>					
Cooper Basin – non-SACB JV	60 – 65	10 – 13	–	–	–
Cooper Basin – SACB/SWQ JV	175 – 200	35 – 45	–	–	–
International	10 – 15	6	–	–	–
<b>Total Development</b>	<b>245 – 280</b>	<b>Up to 64</b>	–	–	–
<b>EXPLORATION</b>					
Cooper Basin – non-SACB JV	45-50	30 – 35	450	1,200	3.3
Cooper Basin – SACB/SWQ JV	5	6	–	–	0.1
Unconventional	90 – 100	10 – 15	–	200	–
International	30 – 35	5 – 7	–	1,050	13.7
New Ventures and Other	5 – 10	–	650	–	–
<b>Total Exploration</b>	<b>175 – 200</b>	<b>Up to 63</b>	<b>1,100</b>	<b>2,450</b>	<b>17.1</b>
<b>TOTAL</b>	<b>420 – 480</b>	<b>Up to 127</b>	<b>1,100</b>	<b>2,450</b>	<b>17.1</b>



# Key Australian activities

Project	Q4 2013	Q1 2014	Q2 2014	Potential outcomes
Operated - Nappamerri Trough Natural Gas	3-6 vertical wells and 1 horizontal well Fracture stimulate 9-10 wells Flow test further 12-13 wells			Book further significant 2C resource, further optimise stimulation design, tenure management
SACB JV	Continue infill development program and infrastructure expansion Continuation of SACB JV REM and BCG natural gas exploration			Enhanced production, 2C resource booking
Operated Western Flank oil	12 exploration/appraisal and 4 development wells Approx. 500 km <sup>2</sup> of 3D and 250 km of 2D seismic Facility upgrades at Bauer, Butlers and Callawonga			Maintain wellstock to maximise infrastructure utilisation and production, replenish exploration inventory
Operated Western Flank gas		Up to 3 wells		Incremental 2P reserves, further sales into SACB JV
Non-operated Western Flank oil	Up to 18 wells, 13 of which may be exploration/appraisal			Incremental 2P reserves, increased production
Operated Queensland oil	1 exploration well 300 km <sup>2</sup> 3D seismic	2 exploration wells 2 development wells		Farm-in to ATP 732, incremental 2P reserves from exploration, accelerated production from Kenmore/Bodalla
Other unconventional		2 Otway wells	1 Bonaparte well	Proof of concept for deep gas and liquids play

# Key international activities

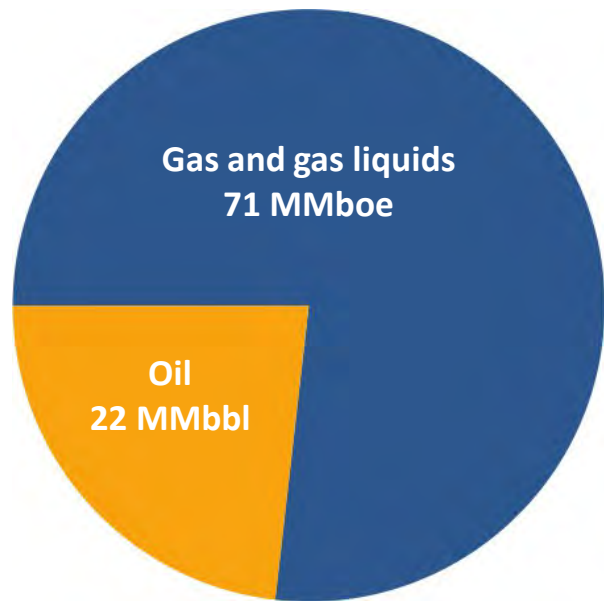
Project	Q4 2013	Q1 2014	Q2 2014	Potential outcomes
Egypt		North Shadwan - 2 development wells Exploration and development drilling		Continue towards full development of all discovered fields
Romania	1 offshore exploration well	2 offshore exploration wells		Progress exploration of the Est Cobalcescu Block
Tanzania	Metoccean studies, drilling planning, farm-out process			Secure a partner for the drilling phase in Lake Tanganyika South and continue preparations for drilling
New Zealand	Well planning in PEP 52181	Acquire 700 km <sup>2</sup> 3D seismic in PEP 52717		Building toward drilling in PEP 52181 in 2014/15 and in PEP 52717 in 2015/16



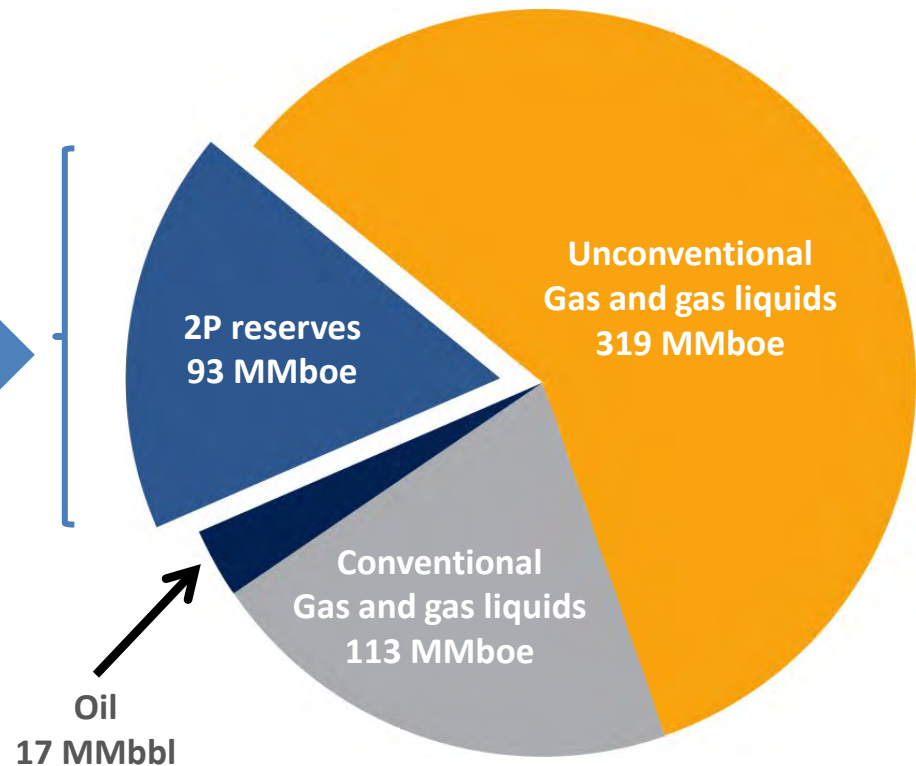


# Reserves and contingent resources

**2P: 93 MMboe**



**2P and 2C: 542 MMboe**



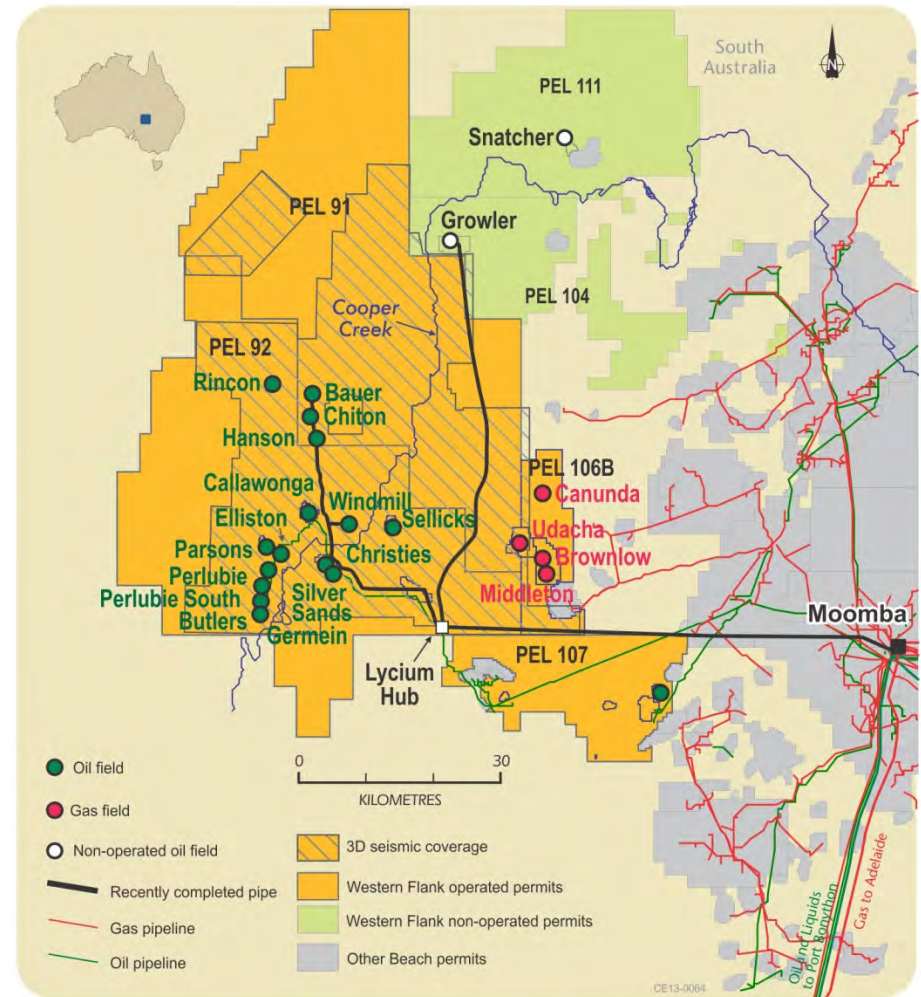
# Western Flank

Mike Dodd – Exploration and Development Manager



- High net back for oil and wet gas
- Quick drill and tie-in
- High flow rates
- Excellent understanding of the geology
- Established infrastructure
- 1,200 km<sup>2</sup> of 3D seismic

- Net production target in excess of 10,000 boepd
- 32 exploration and appraisal wells
- 12 development wells





# Western Flank infrastructure

## Oil infrastructure

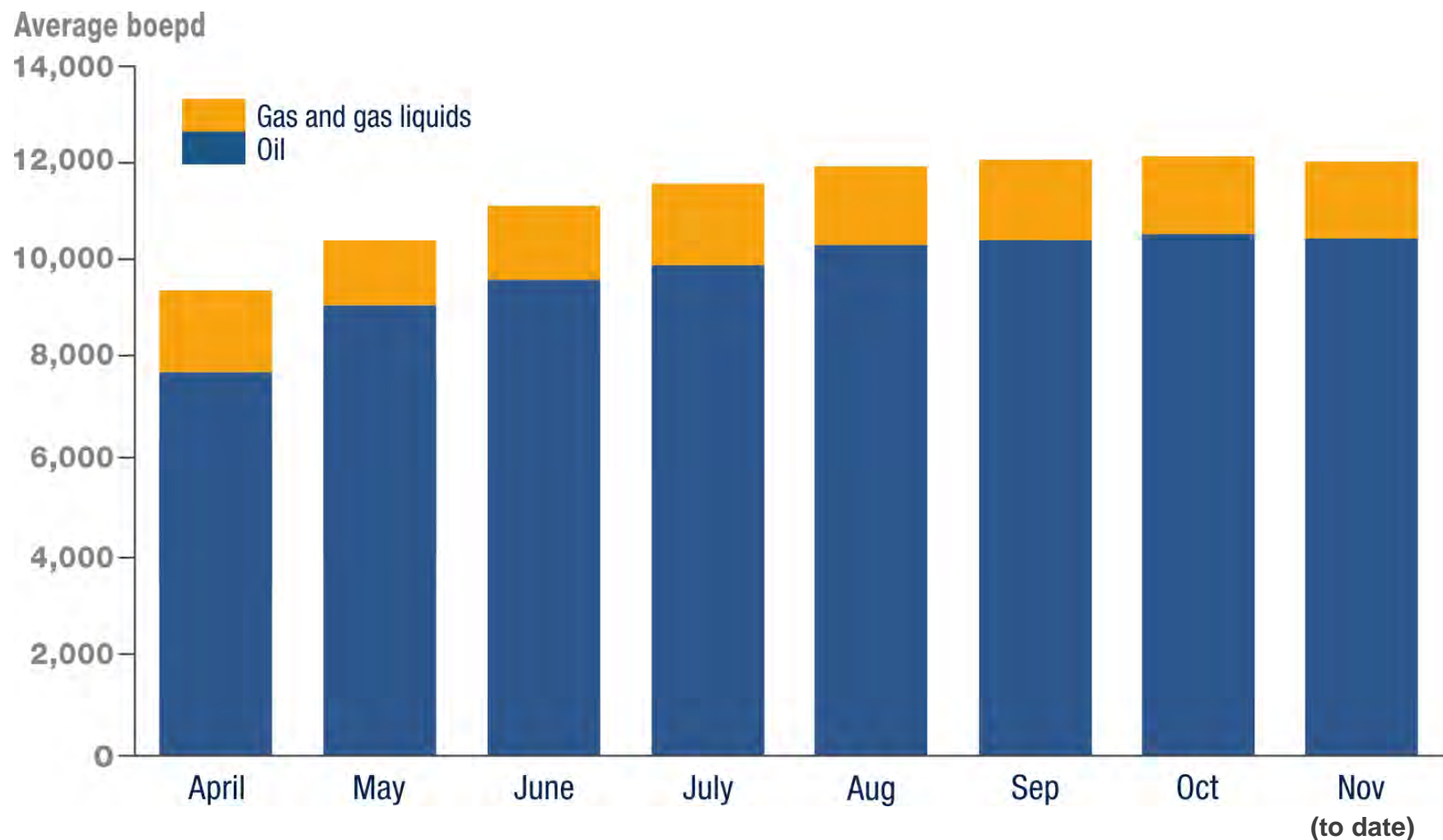
- 250 kilometres of flowlines
- 10 facilities and five trucking points
- 30 oil wells on production
- Lycium Hub:
  - Oil received from three facilities via 180 kilometres of flowlines
  - Export rates of ~18,500 bopd to Moomba (potential >20,000 bopd)

## Gas infrastructure

- One facility and 25 kilometres of spoolable composite pipelines
- Three producing gas wells
- Middleton gas processing facility:
  - Capacity of 25 MMscfd and 1,000 bpd of condensate

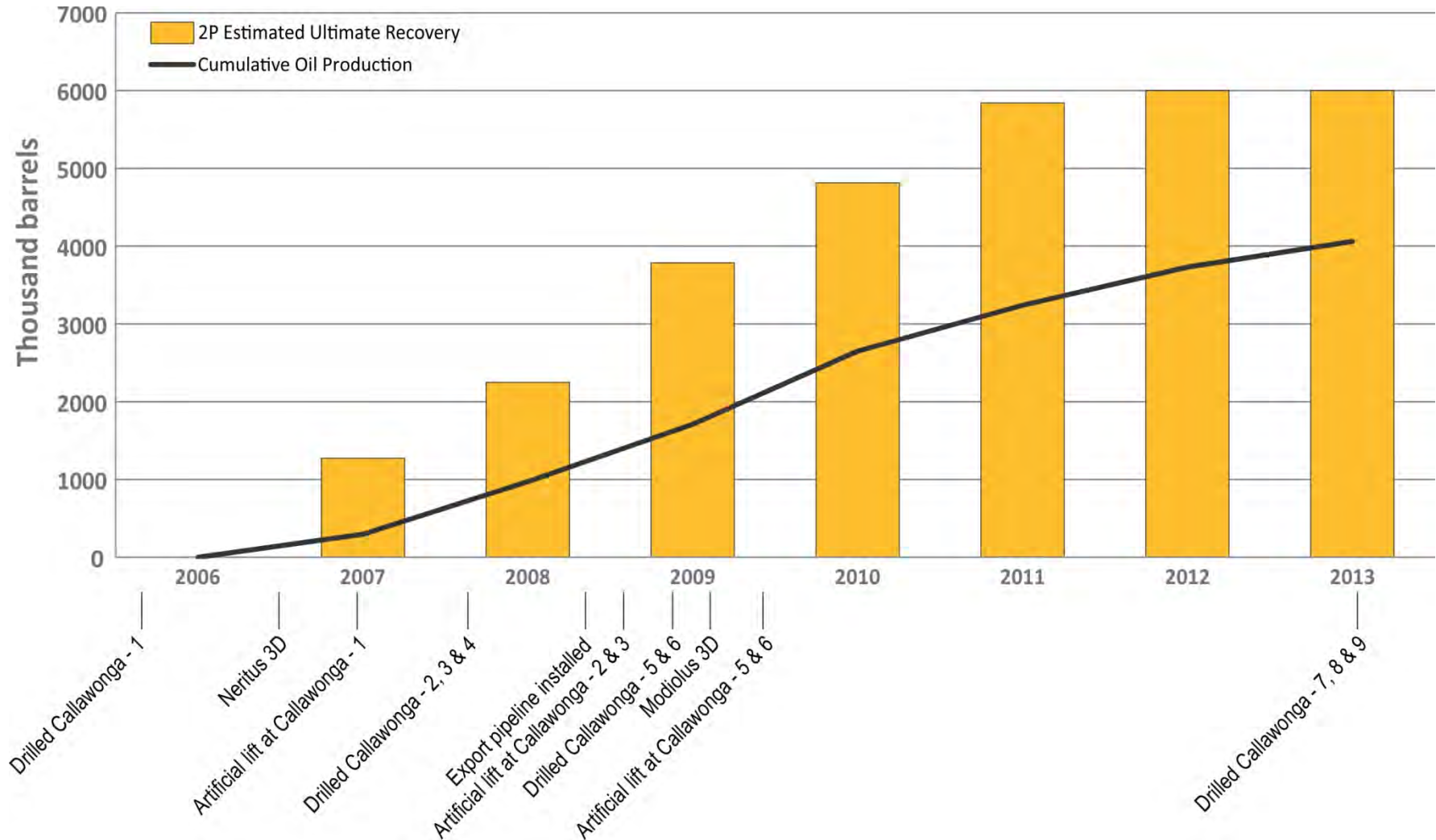


# Average Western Flank net production





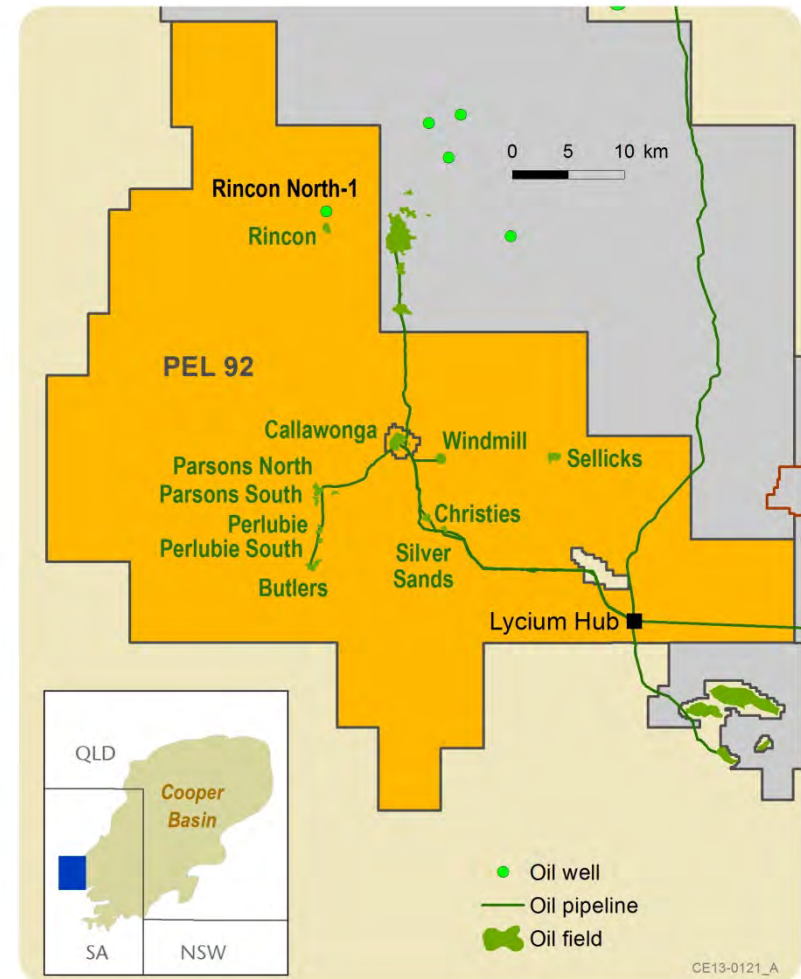
# Callawonga EUR growth



- Beach 75% and operator, Cooper Energy 25%
- Current gross production ~6,000 bopd
- Callawonga-7 and -8 and Windmill-1 development wells online, gross production addition of ~800 bopd
- Butlers-7 and -8, Callawonga-9 and Windmill -2 planned to be online in the coming months

## FY14 capital program

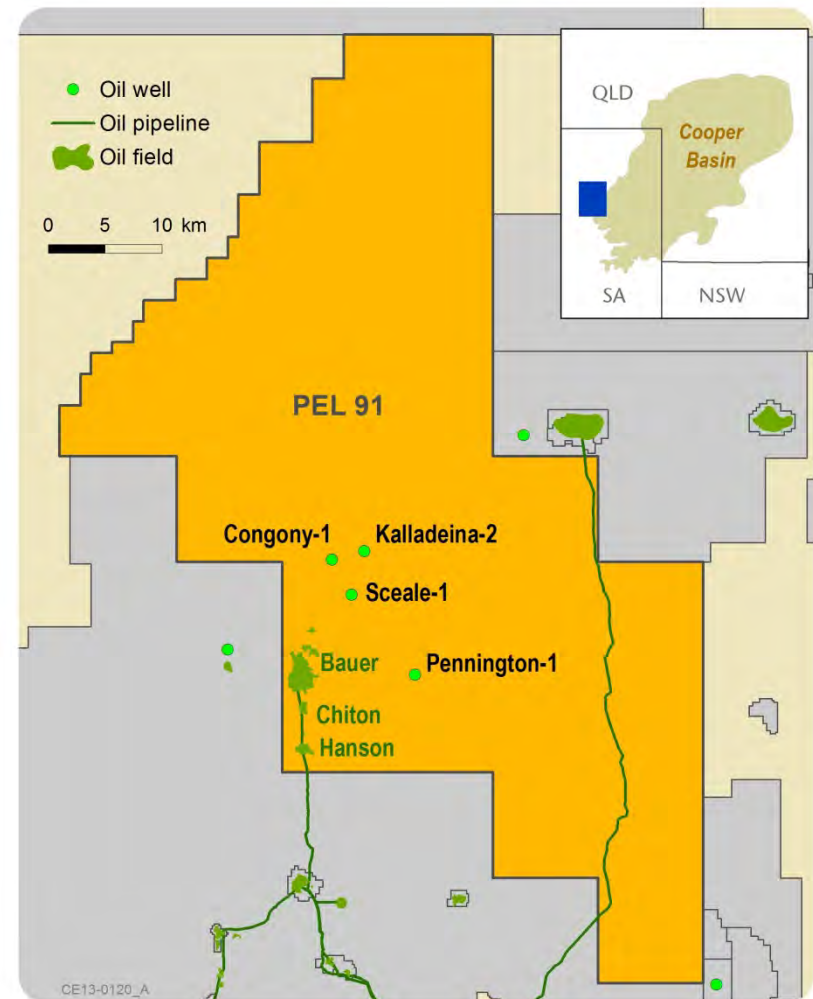
- Five exploration/appraisal and four development wells
- Interpretation to be completed on Irus and Caseolus 3D seismic data
- Total net capital expenditure \$31 million



- Beach 40% and operator, Drillsearch Energy 60%
- Current gross production ~11,000 bopd, with further wells to be tied-in
- Advanced 3D seismic interpretation techniques being utilised to increase understanding of the mid-Birkhead play

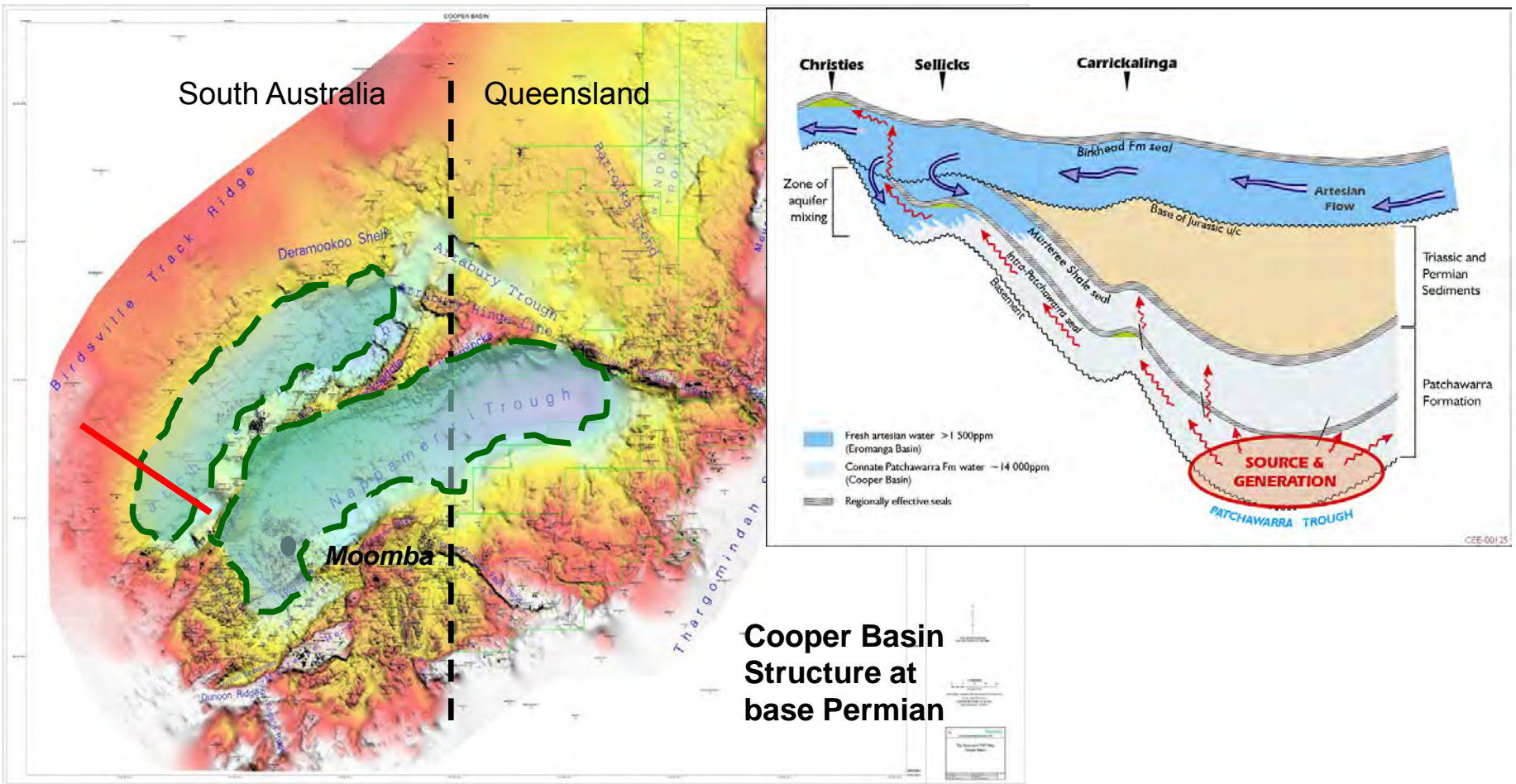
## FY14 capital program

- 11 exploration/appraisal and three development wells
- Potential addition of 500 km<sup>2</sup> 3D seismic survey
- Expansion of the Bauer facility
- Four new fields (Pennington, Congony, Kalladeina and Sceale) expected on-line
- Total net capital expenditure \$27 million





# Prospect life cycle – Bauer



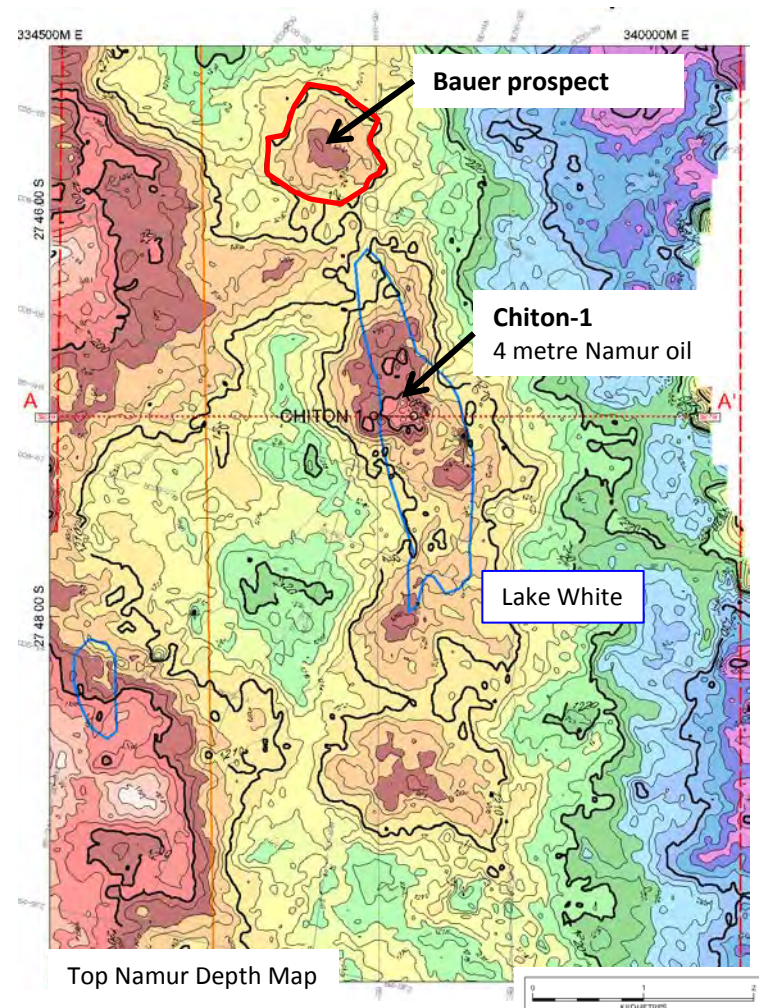
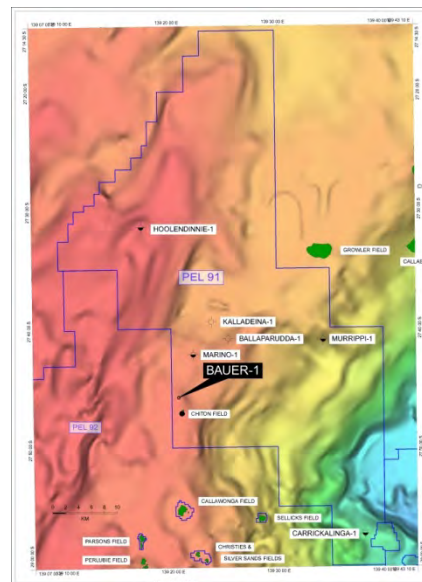


# Prospect life cycle - Bauer

## Bauer field exploration phase

- 2D and 3D seismic mapping defines prospects
- Modiolus 3D data acquired 2008
- Prospects evaluated for oil-in-place estimates and chance of success
- Bauer-1 drilled July 2011

Location Map

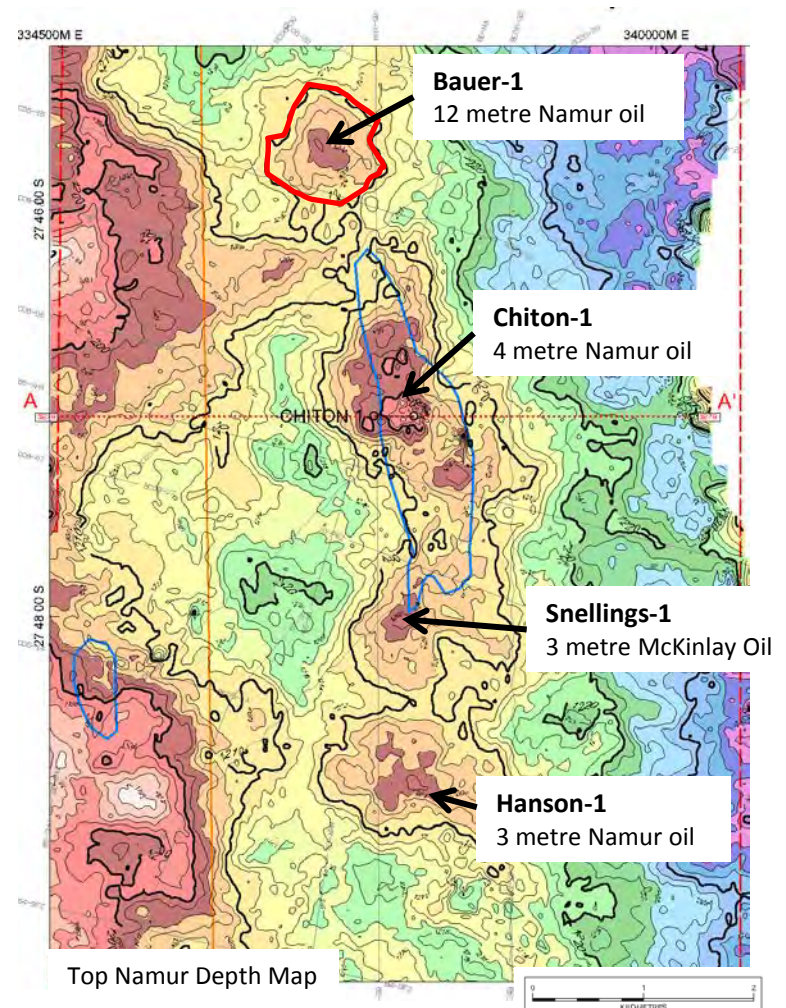
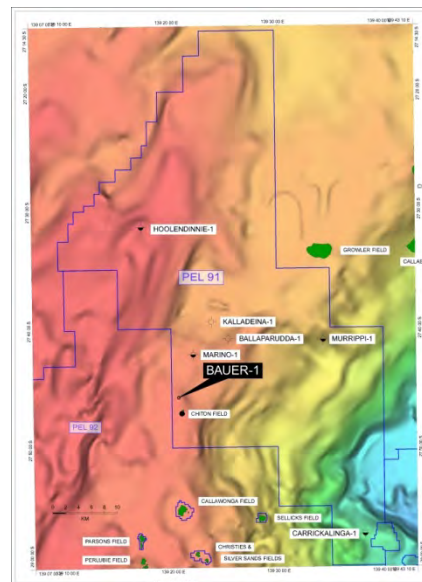


# Prospect life cycle - Bauer

## Bauer field exploration phase

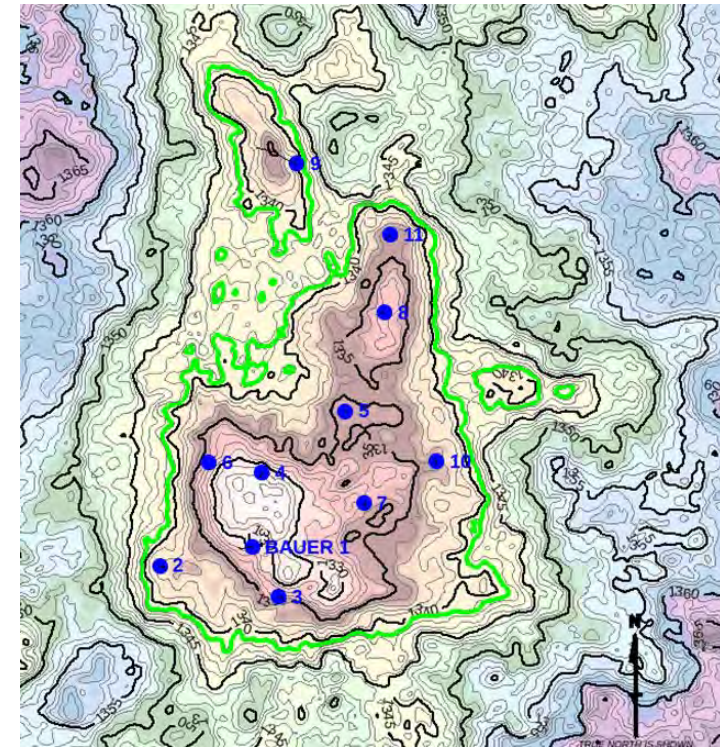
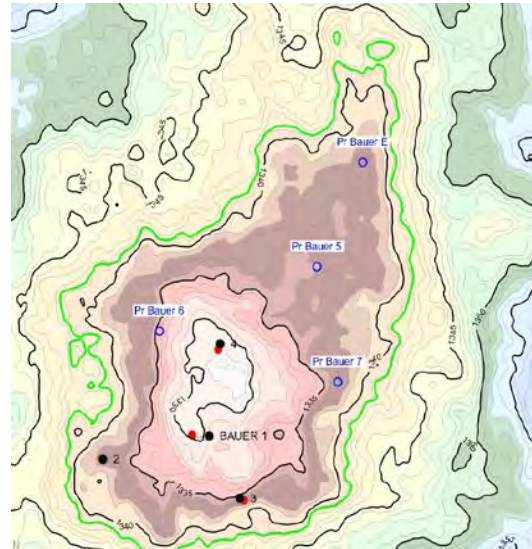
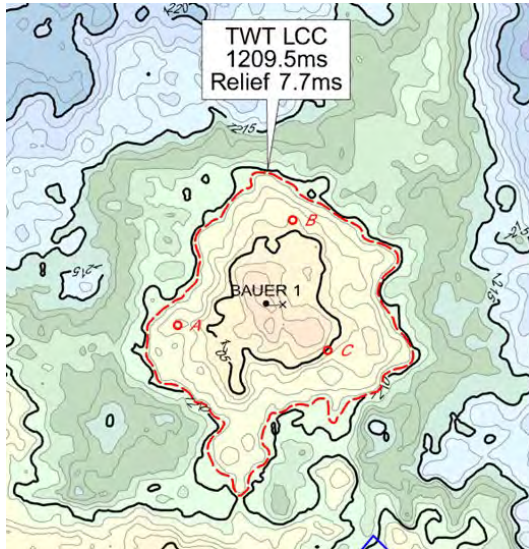
- 2D and 3D seismic mapping defines prospects
- Modiolus 3D data acquired 2008
- Prospects evaluated for oil-in-place estimates and chance of success
- Bauer-1 drilled July 2011

Location Map





# Prospect Life Cycle – Bauer



## Bauer field appraisal/development phase

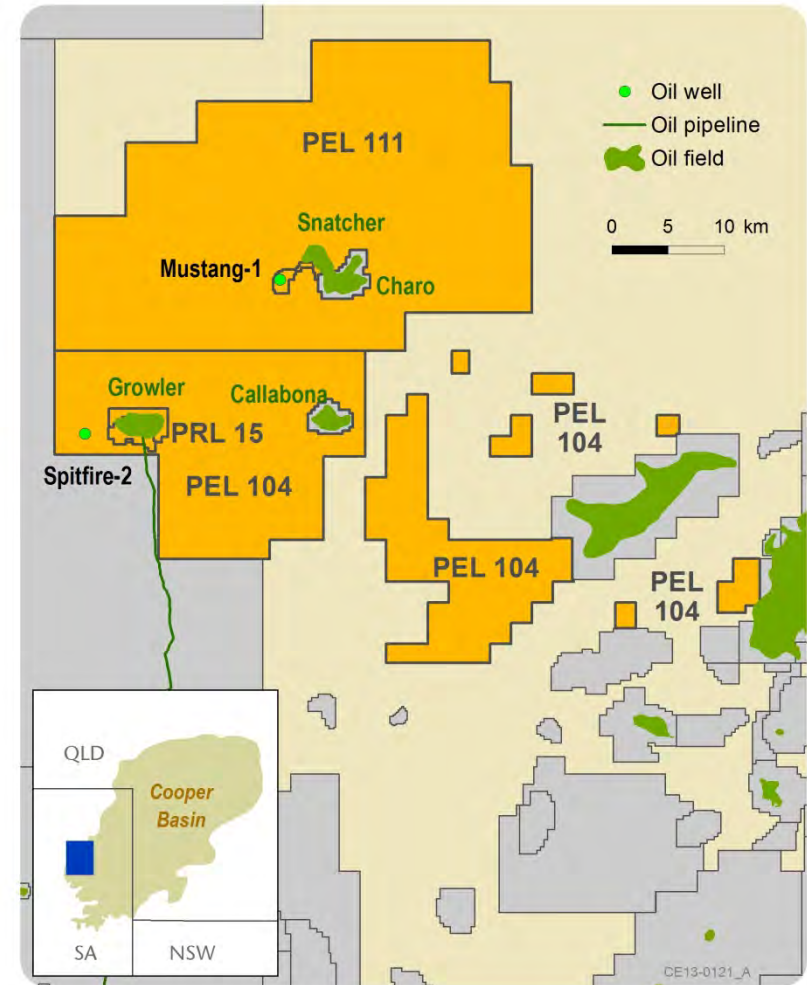
- Appraised by campaign drilling
- Bauer-2, -3 and -4 drilled September 2011
- Production commenced May 2012
- Oil initially trucked, production facility construction commenced
- Seismic data re-processed in 2012
- Bauer-5, -6 and -7 drilled July 2012
- Continued development drilling 2012-13
- Bauer to Lycium pipeline commissioned 2013

# PEL 104 and PEL 111

- Beach 40%, Senex Energy 60% and operator
- Focus on the Birkhead formation
- Gross production of ~4,300 bopd from Growler and Snatcher fields

## FY14 capital program

- Anticipated program of 18 wells, of which 13 will be exploration/appraisal
- Snatcher appraisal well proposed to extend field to north
- Further appraisal drilling at Spitfire and Mustang
- Exploration prospects expected to be generated from 3D Lignum seismic survey
- Total net capital expenditure \$27 million



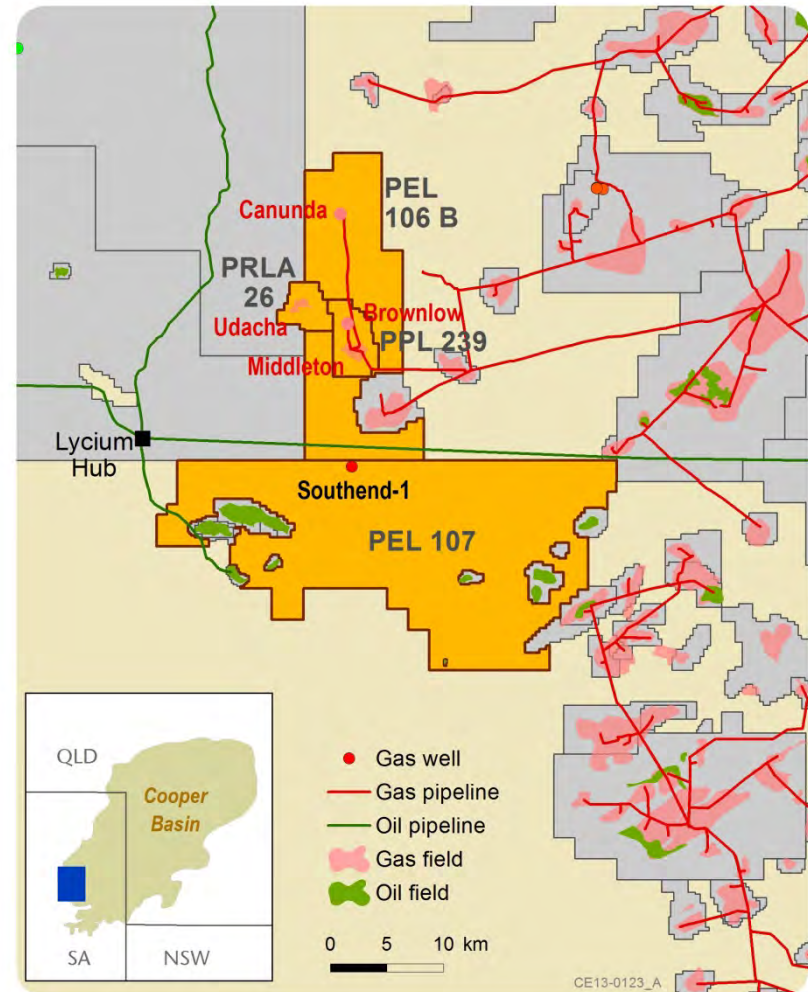


# PEL 106B and PEL 107

- PEL 106B – Beach 50% and operator, Drillsearch Energy 50%
- Commercial discussions successful in establishing extended gas sales to March 2016
- Connected liquids rich Canunda well in July 2013
- Gross flow rate of ~12 MMscfd (~7 TJ per day sales gas) and ~1,000 bbls per day LPG and condensate

## FY14 capital program

- Up to three exploration wells
- Total net capital expenditure \$9 million



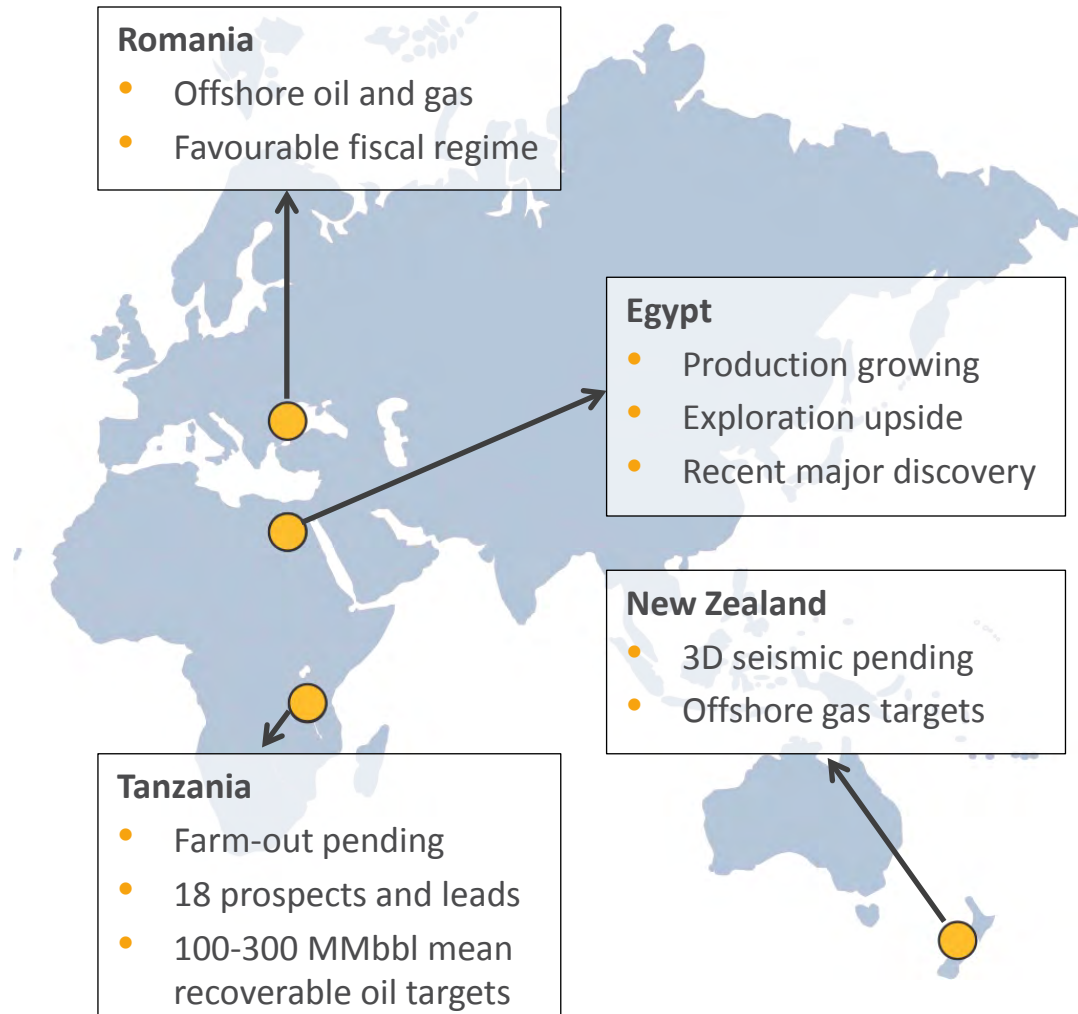
# International

Simon Brealey – Geologist International





- Provides long-term growth options
- Targeted and disciplined approach to key attributes:
  - Technical
  - Commercial
  - Risk/reward proposition
  - Capital allocation
- Focused on early entry step change opportunities
- Bias for oil and high price gas markets



## Country status

- Recent history of political volatility and unrest
- Business as usual from an operations standpoint

## Growth potential

- Targeting 20+ MMbbl oil prospects
- El Salmiya-2 discovery to be further appraised in 2013/14

## Beach value add

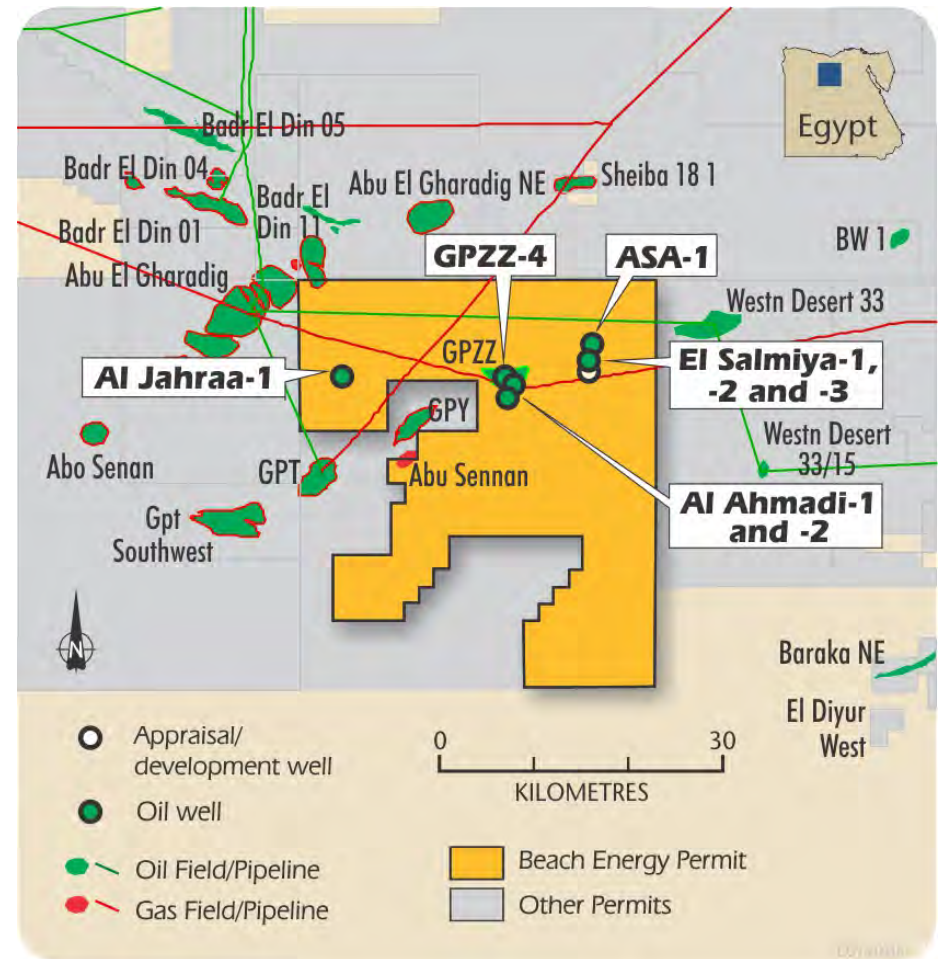
- Sharing of core skill set:
  - Geological – Similarities between Cooper Basin and Western Desert
  - Operational – Trucking initiated out of North Shadwan



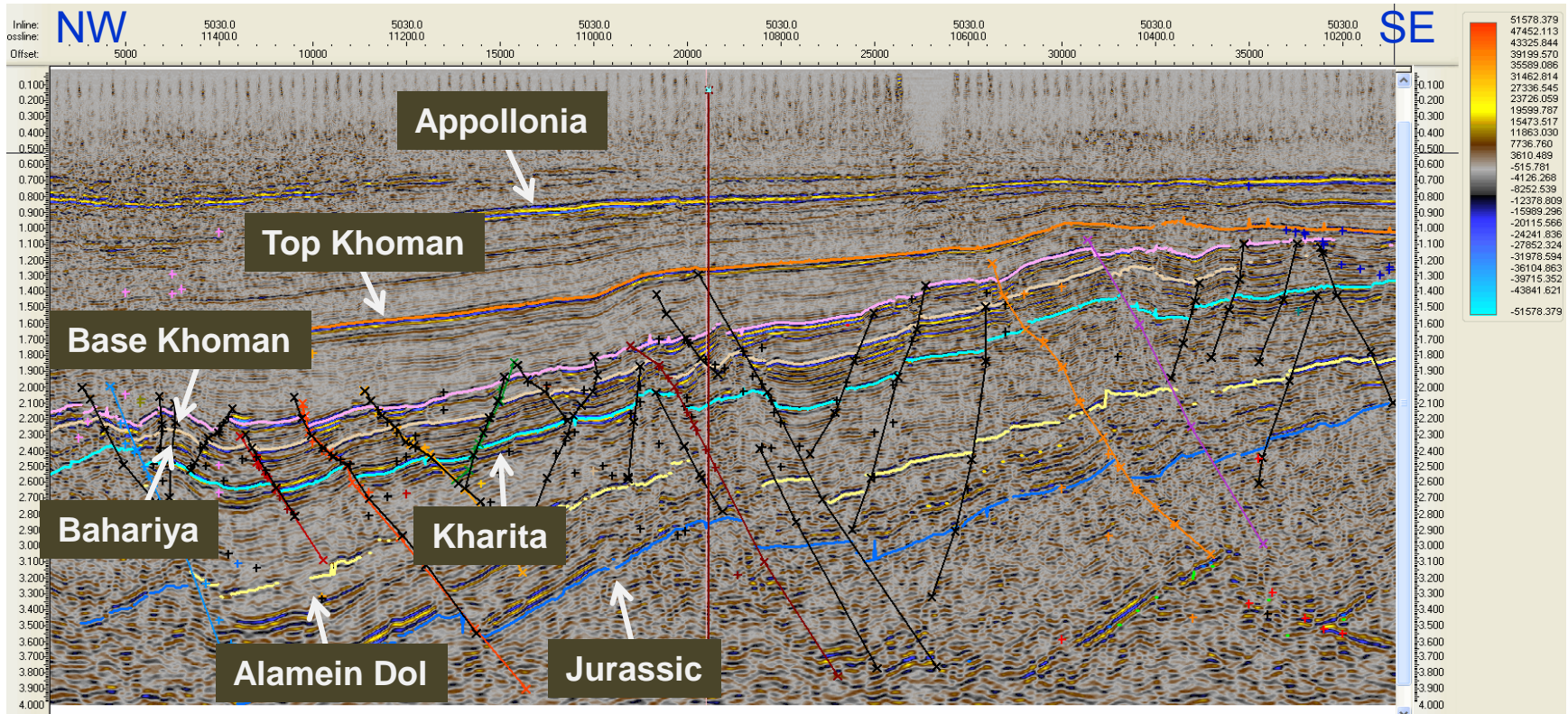


# Abu Sennan Concession

- Beach 22%, Kuwait Energy 50% and operator, Dover Investments 28%
- Nine exploration wells drilled, five successful
- Combined total gross flow rate from four wells of ~12,300 boepd (gross)
- New five well appraisal program in progress:
  - Second well, El Salmiya-2, tested a new reservoir zone at 3,530 bopd
  - Current well El Salmiya-3, followed by El-Salmiya-4 and Al Jahraa-2
- Existing wells still have upside exploration targets
- EPTs currently choked back and producing at 1,000 bopd (gross)



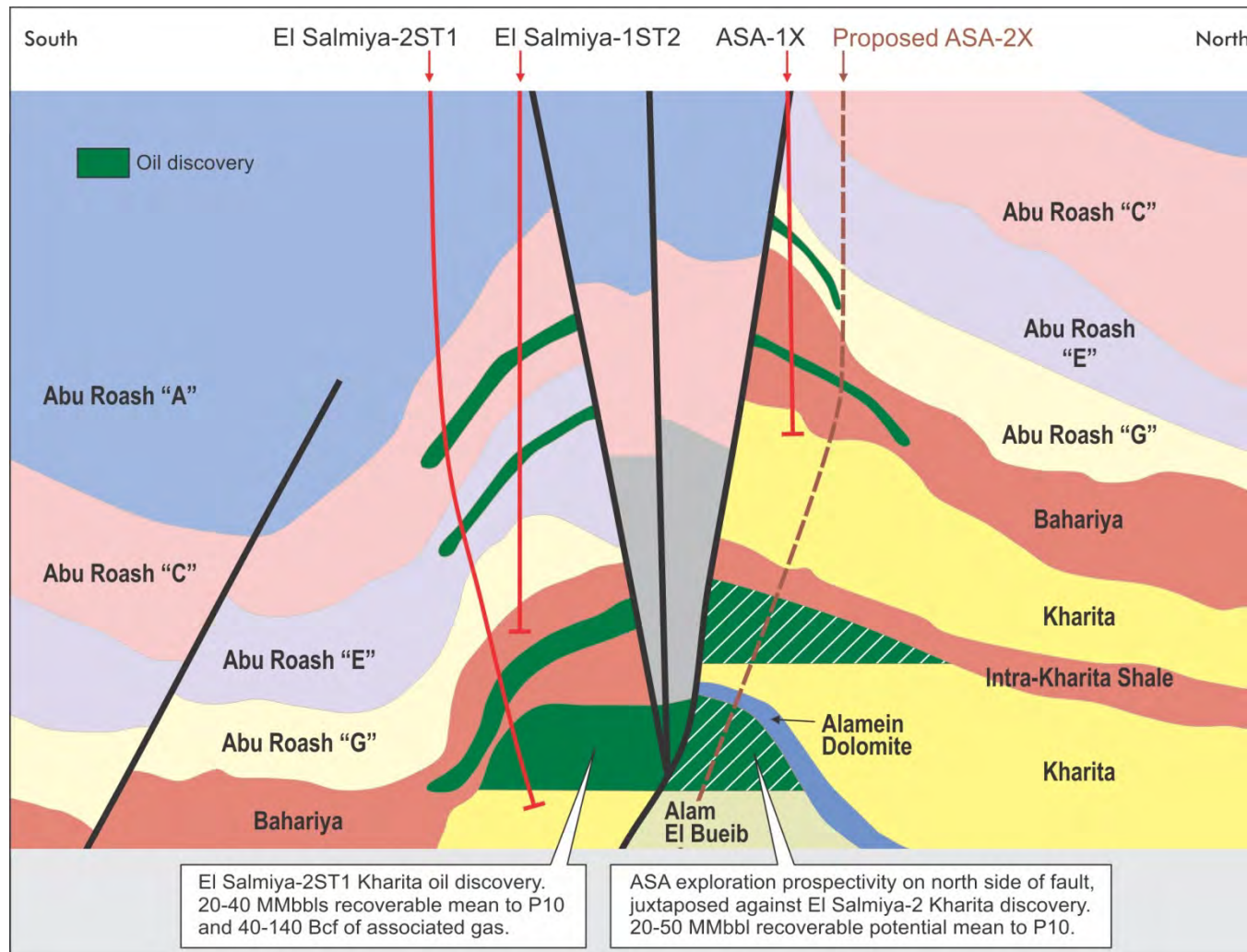
# Abu Sennan 3D seismic line



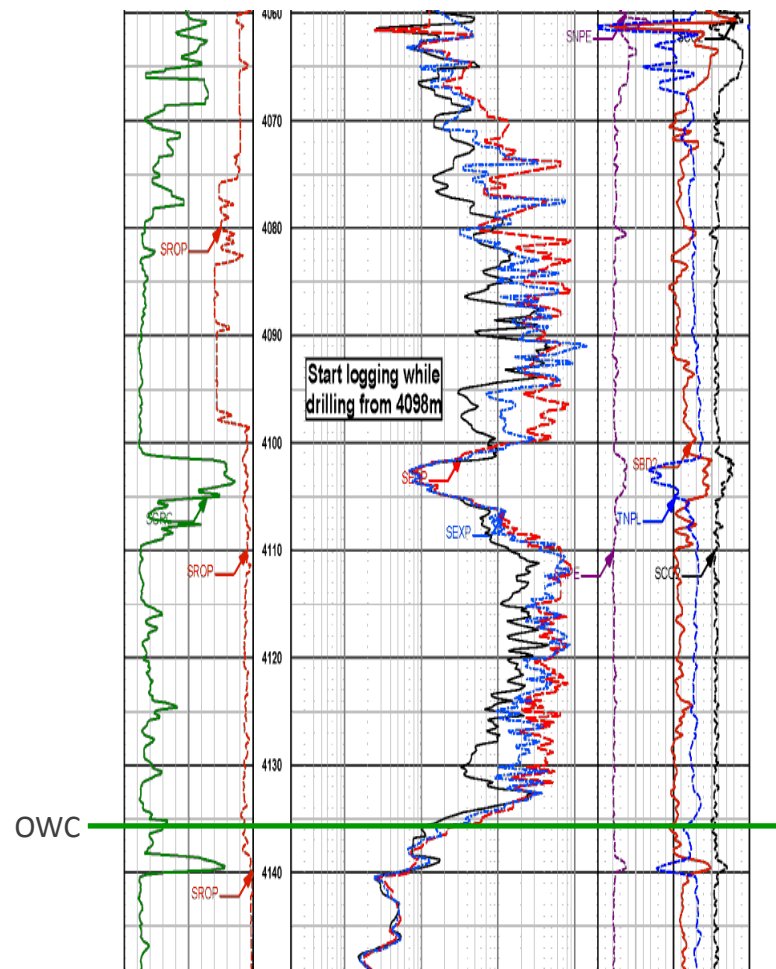
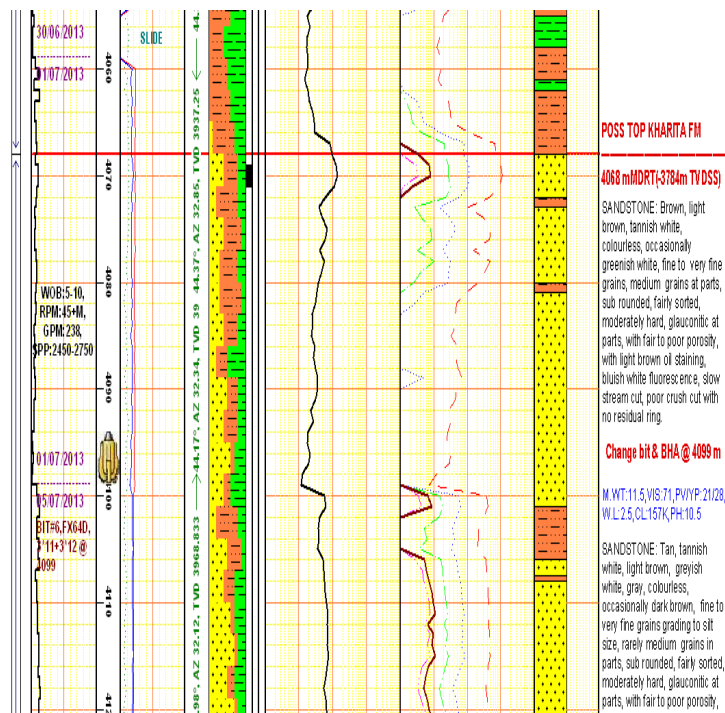
- Initial drilling campaign encountered shows/pay at all named formations except Jurassic
- Cross fault juxtaposition of lithologies critical for the Kharita and Jurassic
- El Salmiya-3 and -4 targeting the Kharita Fm to the east and west ends of the closure



# Abu Sennan – trap geometry 101



# El Salmiya-2 Kharita Formation: log analysis

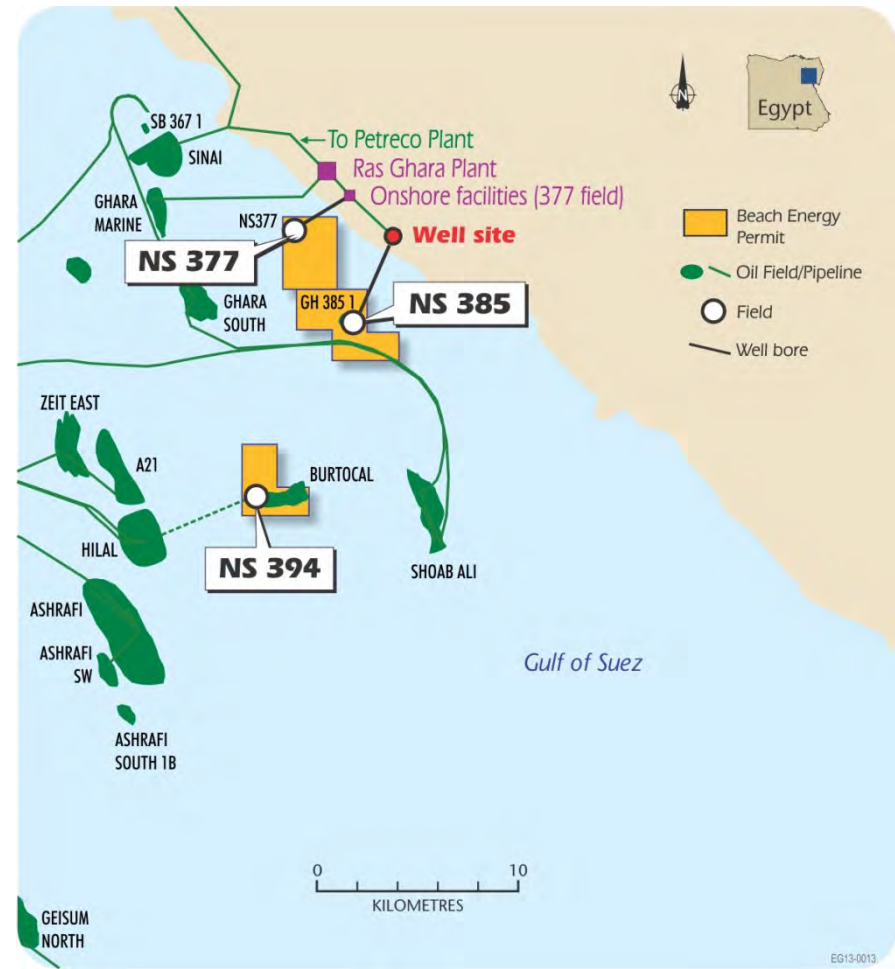


- 49 metre vertical column, 82% net to gross
- Operator estimates 2P reserves of 18.5 MMbbl of oil and 142 Bcf of gas
- El Salmiya-2 production at 600 bopd (gross), taking permit total to 1,000 bopd (gross)



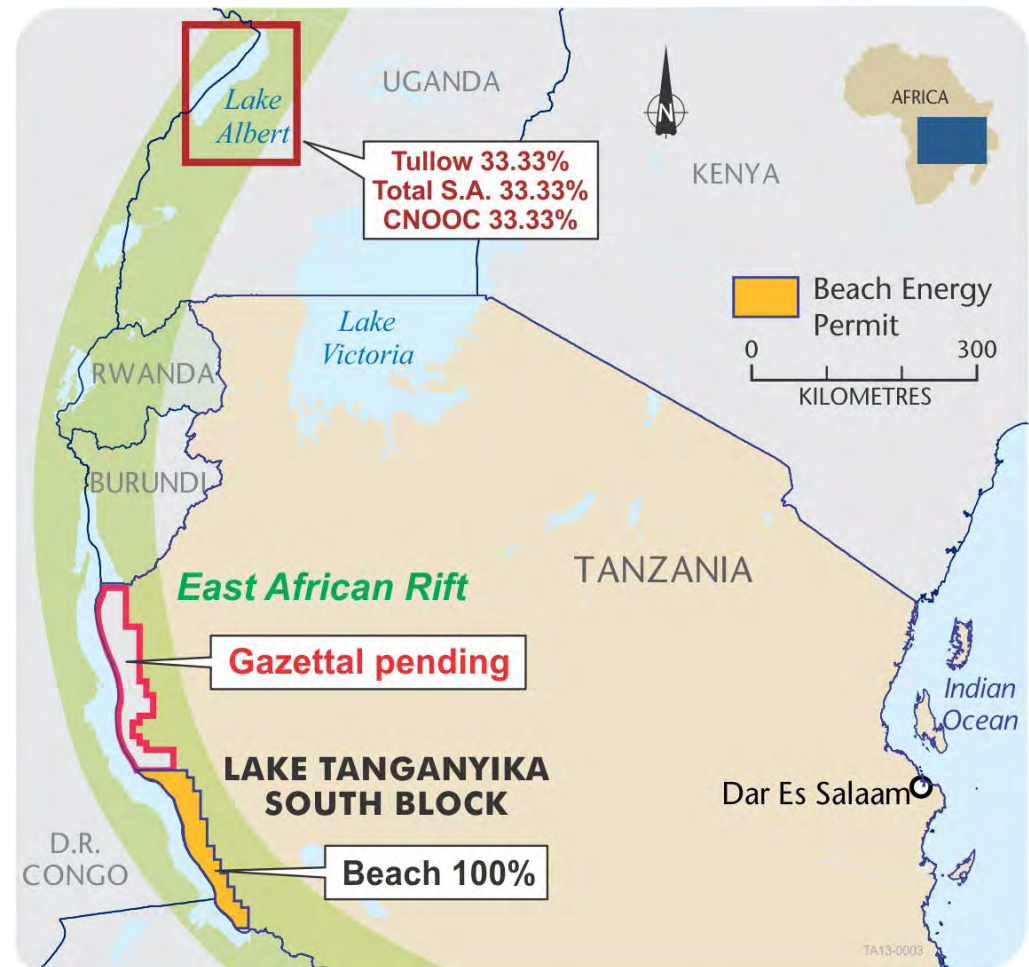
# NS 377 and NS 385

- Beach 20%, BP 50% and operator, Tri-Ocean 30%
- Shallow Miocene sands draped over older highs
- Onshore to offshore developments
- NS 377 field steady at 500 bopd (gross)
- NS 385-1 field:
  - Current gross production of 700 bopd
  - Decline analysis and water cut to be used in future development design
  - Two dual laterals planned for 2014
  - Option to convert NS 385-1 well into a water injection well in a multi-lateral development scenario



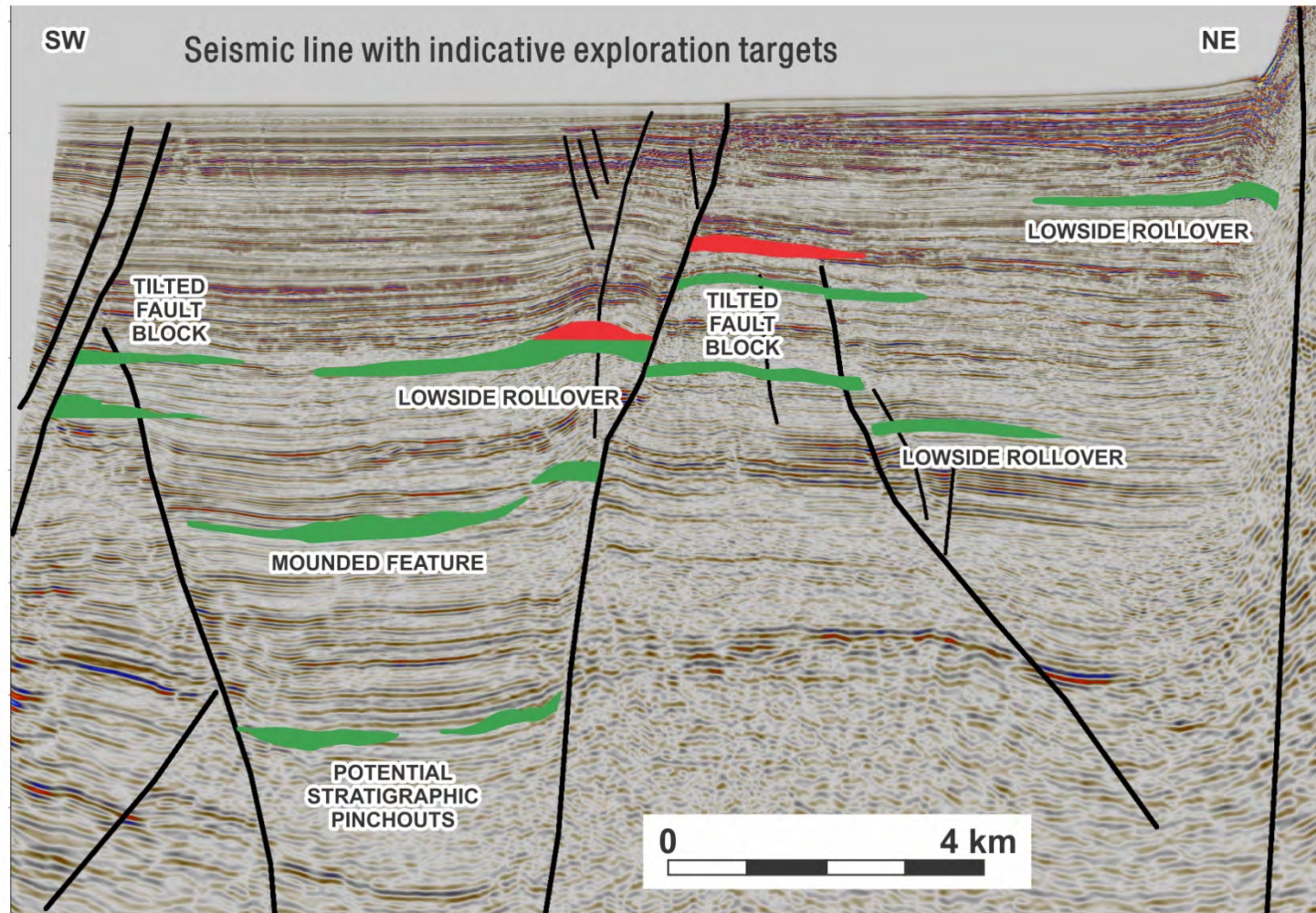
# Tanzania – Lake Tanganyika South Block

- Natural oil seeps indicate a working petroleum system
- South block area ~7,200 km<sup>2</sup>
- Aeromag and gravity surveys completed
- 2,080 kilometre 2D seismic survey completed in August 2012
- Farm-out process commenced
- Extensive structuring confirmed, similar to Lake Albert in Uganda
- Indications of hydrocarbons over tilted fault blocks, low-side rollovers and mounded features
- Individual prospects of 100-300 MMbbl of oil (mean recoverable)
- Metocean studies ongoing



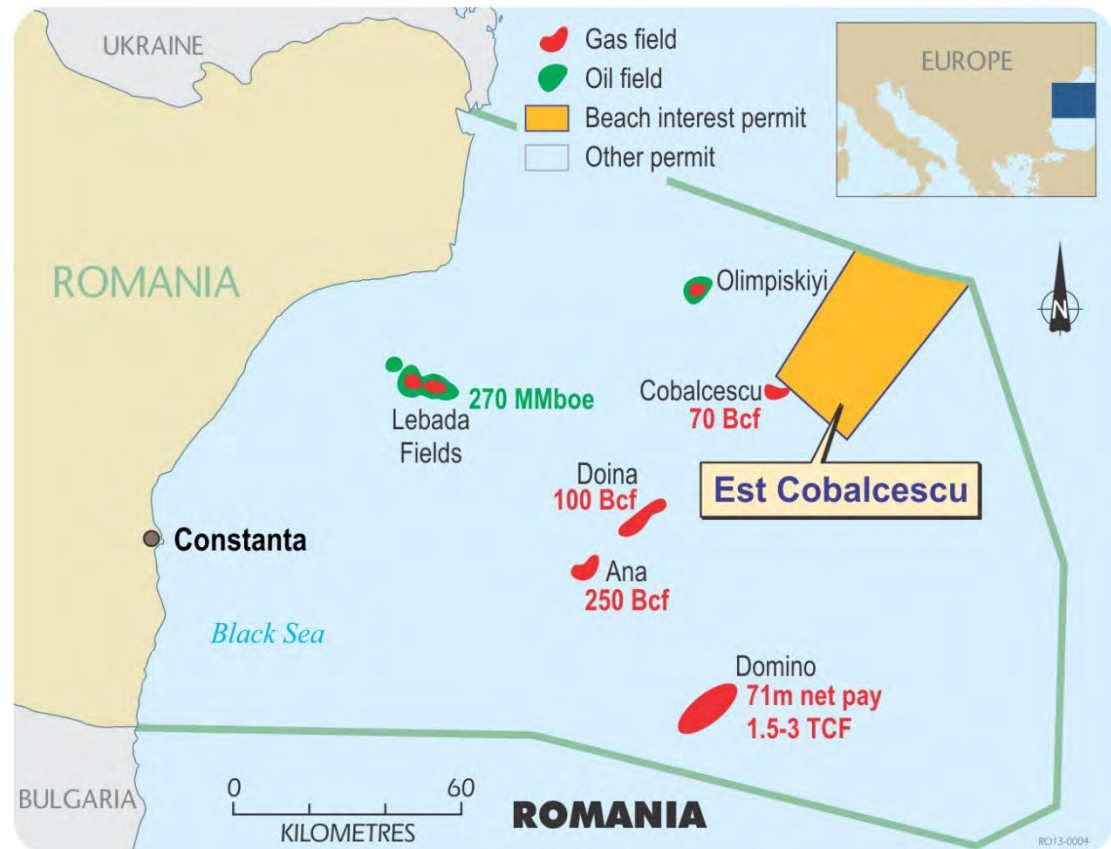


# Indicative exploration targets



# Romania – Est Cobalcescu block

- Est Cobalcescu: Beach 30%, PetroCeltic 40% and operator, Petromar 30%
- ~1,000 km<sup>2</sup> with 3D seismic coverage
- Water depth <100 metres
- ExxonMobil deep water block discovery has estimated 2P reserves of 1.5 - 3 Tcf
- O1RX Cobalcescu South well plugged and abandoned with gas shows in the primary target sands
- Two further exploration wells planned in the next 12 months



Operator reserve estimates detailed above

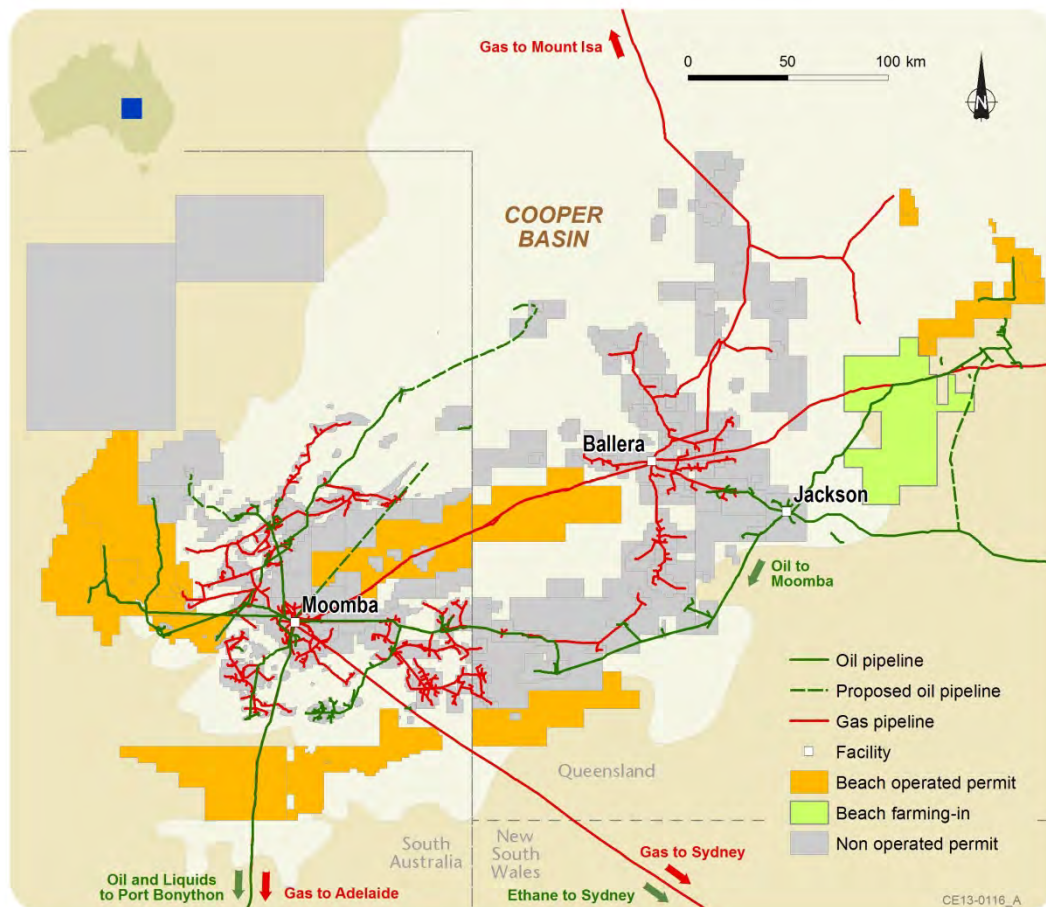


# Eastern Australian gas market

Steve Masters – Chief Commercial Officer

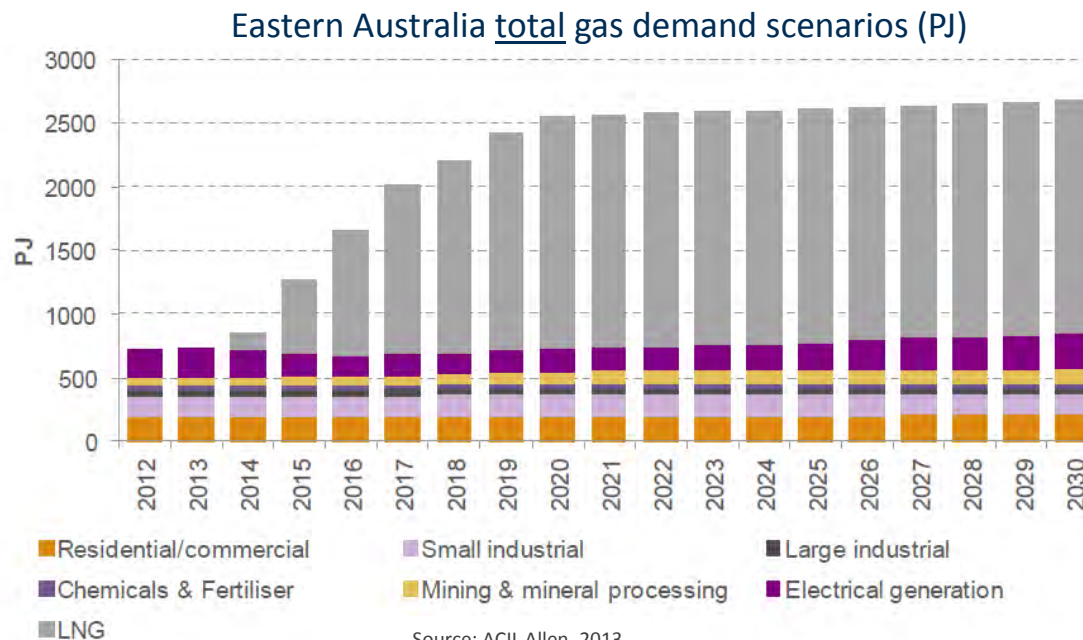


# Prolific acreage strategically located



# Eastern Australian gas markets

- Strong predicted growth in Eastern Australian gas and Asian LNG demand
- Gladstone based export LNG projects have transformed the east coast gas market
- Projected gas supply is 'tight' and demand strong
- The bulk of 'non-LNG' demand is yet to be contracted
- Upward pricing trajectory confirmed by recent contracts and market commentary





# Upstream and downstream dynamics

- 'Equity' molecules to 'equity' projects
- Suppliers creating new markets via downstream investments
- Vertical integration driven by both domestic and export opportunities
- Depending on volume and deliverability, supply likely to under-write 'equity' projects as a priority
- Strong drivers for LNG participants to fill ramp-up wedge capacity and position for future expansion

**Santos**  
We have the energy.

**PETRONAS**

**QGC**  
A BG Group business

**origin**

 中国石油天然气股份有限公司  
PetroChina Company Limited

**TOTAL**

**KOGAS**

 中国石化  
SINOPEC

**ConocoPhillips**



**arrow energy**  
go further

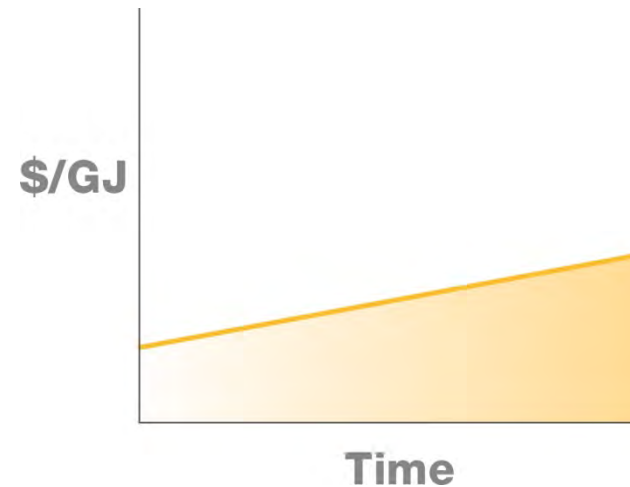
Source: Logos sourced from company websites



# Gas pricing – then and now

## Traditional gas pricing

- A\$ price with CPI escalation and periodic price re-openers



## New gas pricing paradigm

- Clear shift to oil-linked pricing
- Driven by export opportunities
- Potential for hybrid pricing:
  - Curves?
  - Floors / Caps / Collars?
  - Other mechanisms?
- No or few price re-openers



# Recent gas related transactions



- Origin Gas Sales Agreement:
  - Signed April 2013
  - 139 PJ over eight years, potential to extend to 173 PJ over ten years

**High value opportunities**



- PEL 106B – SACB JV Raw Gas Sales Agreement:
  - Signed March 2013
  - Minimum of 10 Bcf

**Quality counterparties**



- Chevron Nappamerri Trough Natural Gas farm-in:
  - Signed February 2013
  - PEL 218 and ATP 855
  - \$349 million of potential payments to Beach

**Diversified options**

**Positioned for future growth**

Source: Logos sourced from company websites



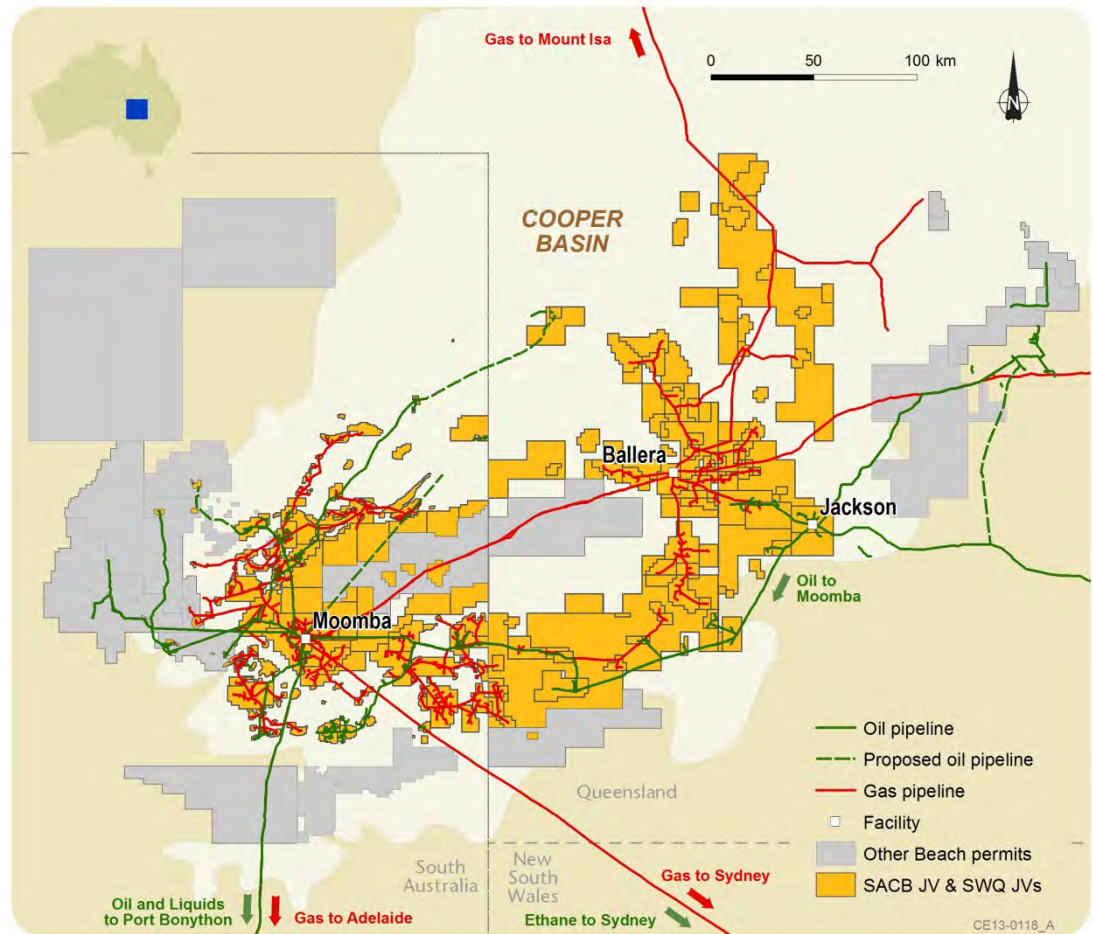
# Delhi (SACB JV and SWQ JVs)

Mike Dodd – Exploration and Development Manager



# SACB JV and SWQ JVs

- Significant acreage with substantial reserves base
- 20.21% in the South Australian Cooper Basin Joint Venture (SACB JV) and 20-40% in the South West Queensland JVs (SWQ JVs)
- Gross area covered by various joint ventures ~26,800 km<sup>2</sup> (~6.6 million acres)
- Joint ventures include:
  - ~6,000 km of flowlines
  - Primary processing and transportation facilities
- Upside from shale and basin centred gas plays



# Moomba processing facility

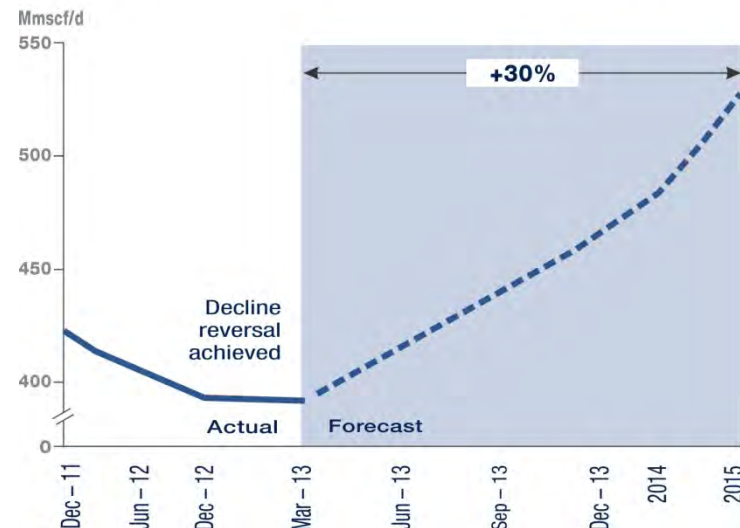
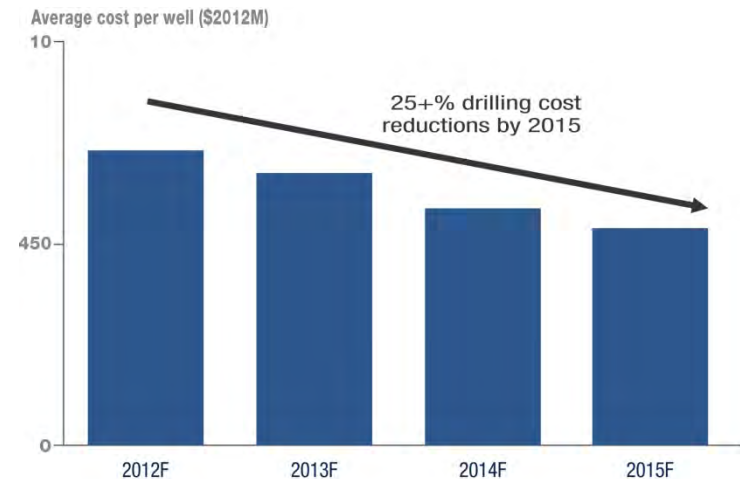
- Strategically located expandable facility
- Current daily capacity approximately:
  - 300 TJ gas
  - 35 kbbl oil/condensate
  - 600 tonnes LPG
- Substantial gas storage system with capacity ~70 PJ
- Gas supplied directly into New South Wales, Queensland and South Australian markets
- Further processing capacity at Ballera >200 TJ per day





# SACB JV gas growth project

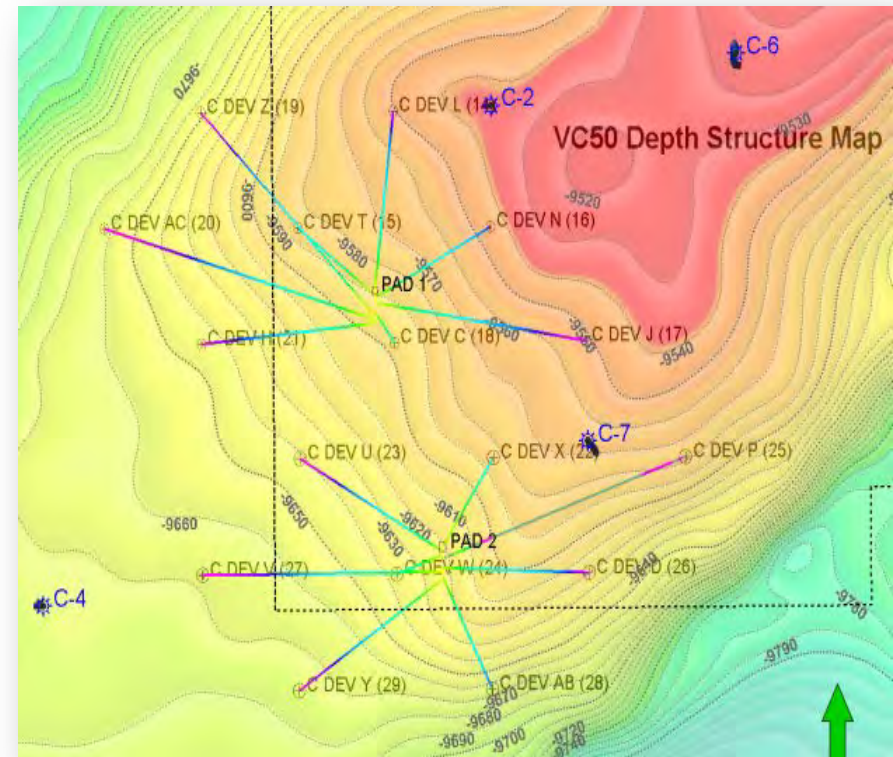
- Multi-well pad drilling, with four rigs expected to be operating by 2014
- SIMOPS approach to fracture stimulation
- 30% production growth to 2015 leads to step-change in cost reductions
- Production costs reduction target of 30%, to ~\$9/boe, by 2015
- Maintenance strategies successfully delivering record downtime levels leading to production benefits



Source: Derived from Santos

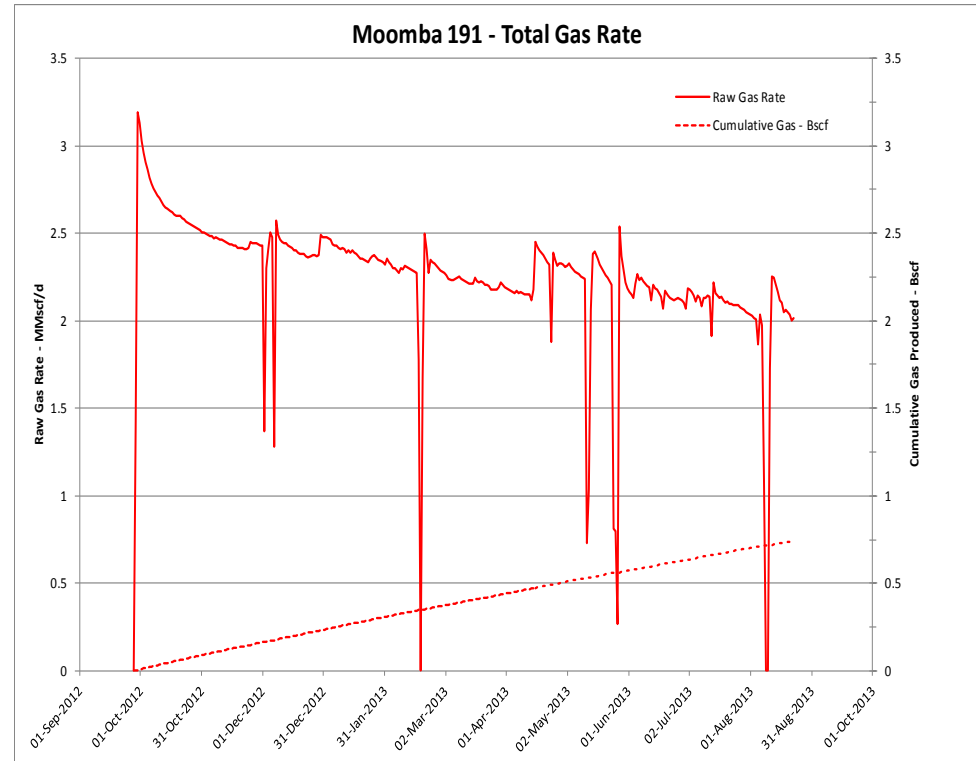
# Pad drilling and SIMOPS - Cowralli

- Multiple wells drilled from closely spaced surface locations
- 16 Cowralli wells drilled from two pads
- Drilling time and costs reduced as rig “skidded” from one well to another
- Fracture stimulation enhanced by SIMultaneous OPerationS, reduces time per fracturing job, multiple jobs per day
- 16% lower well cost target (from 2010 costs) on track
- Future drilling in Big Lake to utilise these methodologies with up to five wells per pad



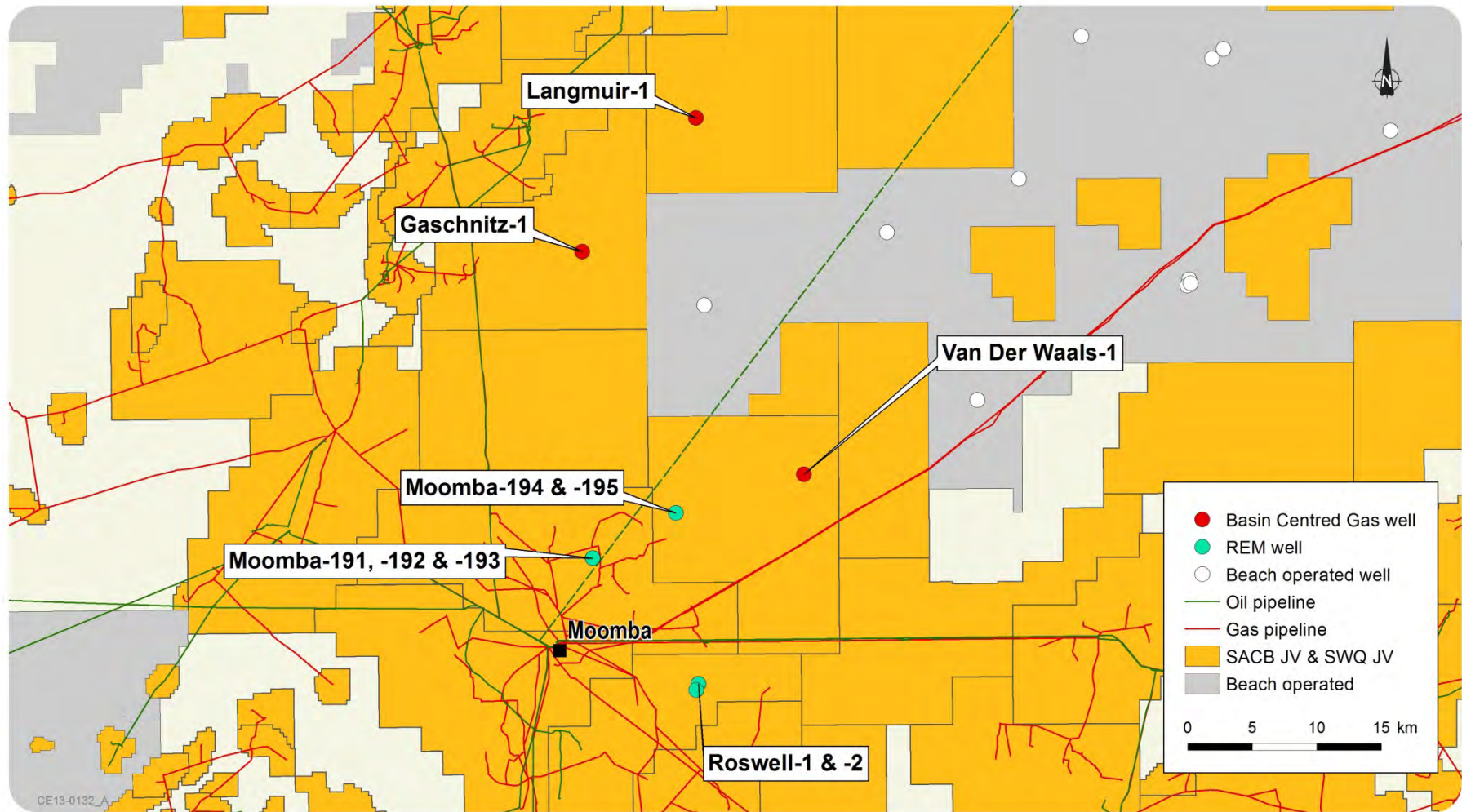
# Moomba 191

- Strong result with fracture stimulation over three stages
- Currently producing at ~2.0 MMscfd
- Reservoir performance suggests possibility hybrid production scenario
- Produced gas likely sourced via Murteree shale and adjacent reservoirs in the Epsilon/Patchawarra formations
- Further appraisal and analysis required to determine gas production mechanism(s)
- Moomba-193 horizontal to target Murteree shale and expected to spud prior to year end





# SACB JV unconventional program



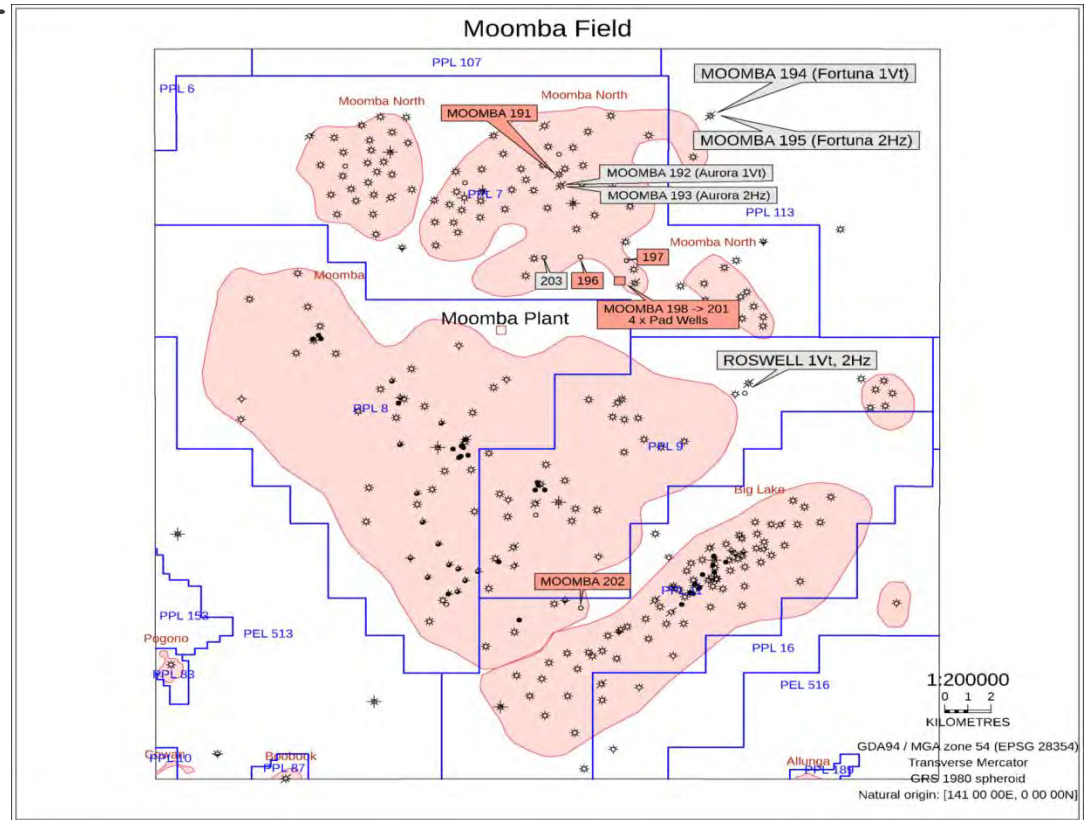
## Progress to Date

- Roswell-1 – Fractured in VC 50 coal, flow tests ongoing
- Moomba-192 – Conventional sand producer at ~3 MMscf/d
- Moomba-194 – Fracturing of shale and sand targets in progress
- Roswell-2 – horizontal currently drilling

Future micro-seismic monitoring wells

## Future plans

- Moomba-193 – horizontal to be drilled late 2013/early 2014
- Moomba-195 – horizontal deferred to late 2014/early 2015 due to rig constraints
- Net capex of \$27-32 million planned for FY14





# SACB JV unconventional – BCG

- Gaschnitz-1 vertical well:
  - Seven zone stimulation, produced at ~1 MMscfd
  - Shut in awaiting completion
- Van der Waals-1 being stimulated, Langmuir-1 to follow
- 2014 pilot production initiation with up to four shallow vertical wells:
  - Connection to SACB JV gathering system if results are promising
  - Locations of wells subject to results from Gaschnitz-1, Van der Waals-1 and Langmuir-1
- Up to 2 deep vertical wells in 2014 to further evaluate BCG results
- Strong connection to Beach operated wells elsewhere in Nappamerri Trough
- Benefit of access to full information set





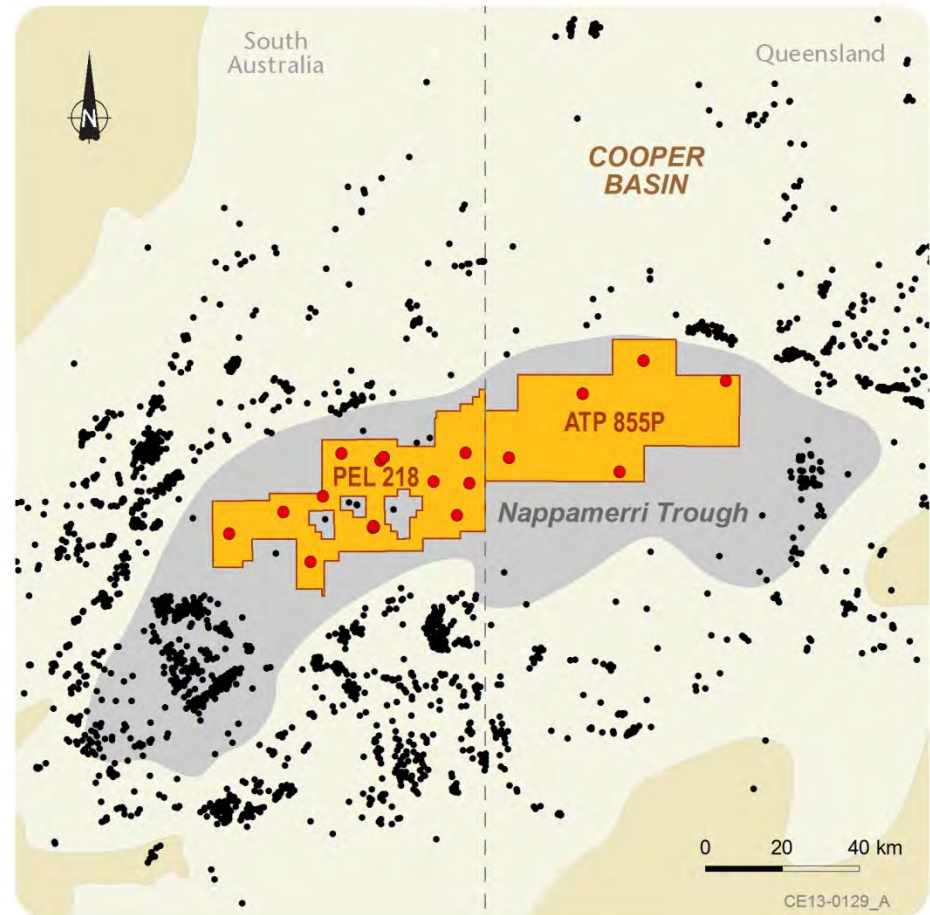
# Nappamerri Trough Natural Gas

Carrie Trembath – Senior Geologist

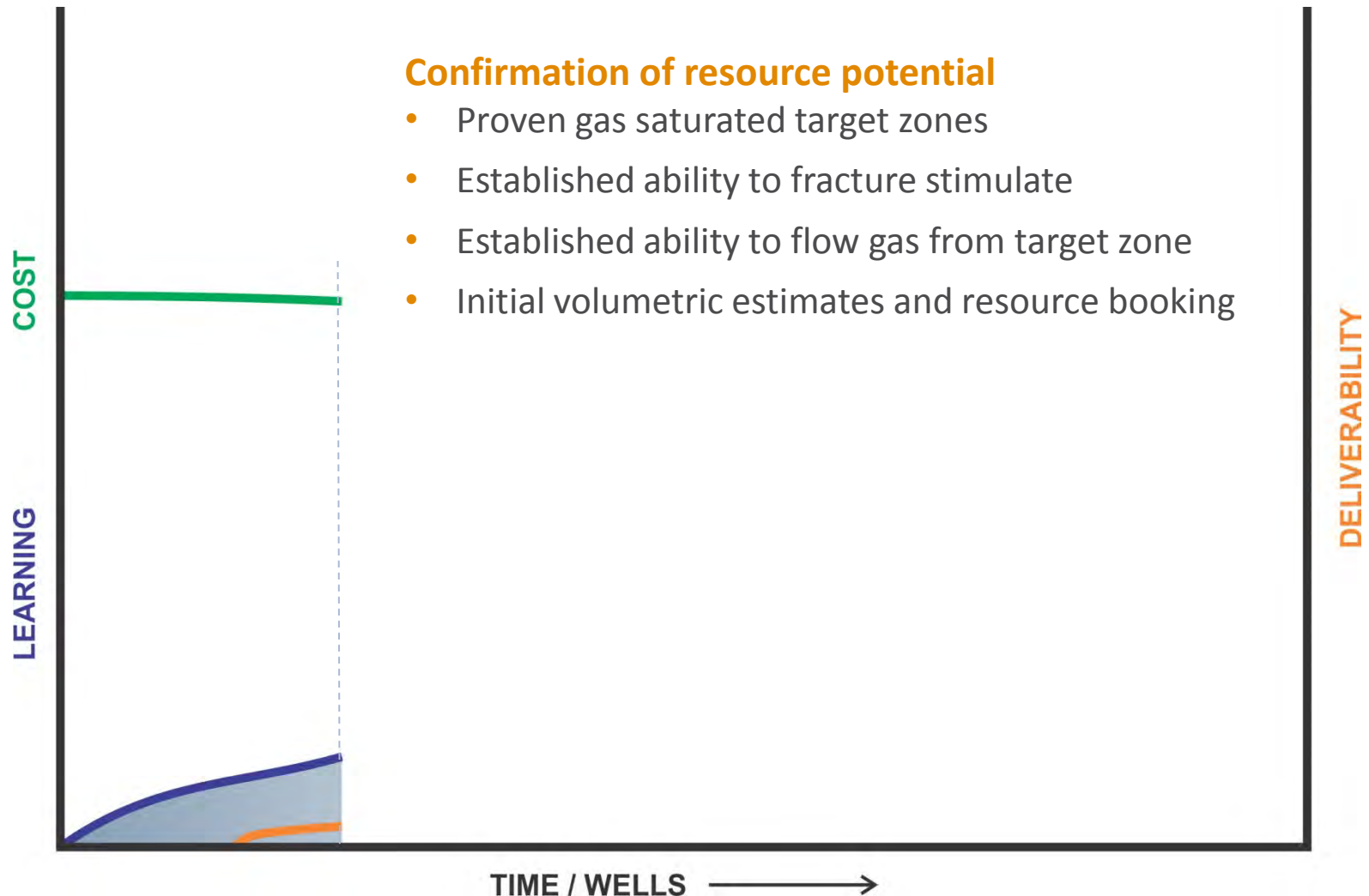


# Nappamerri Trough Natural Gas

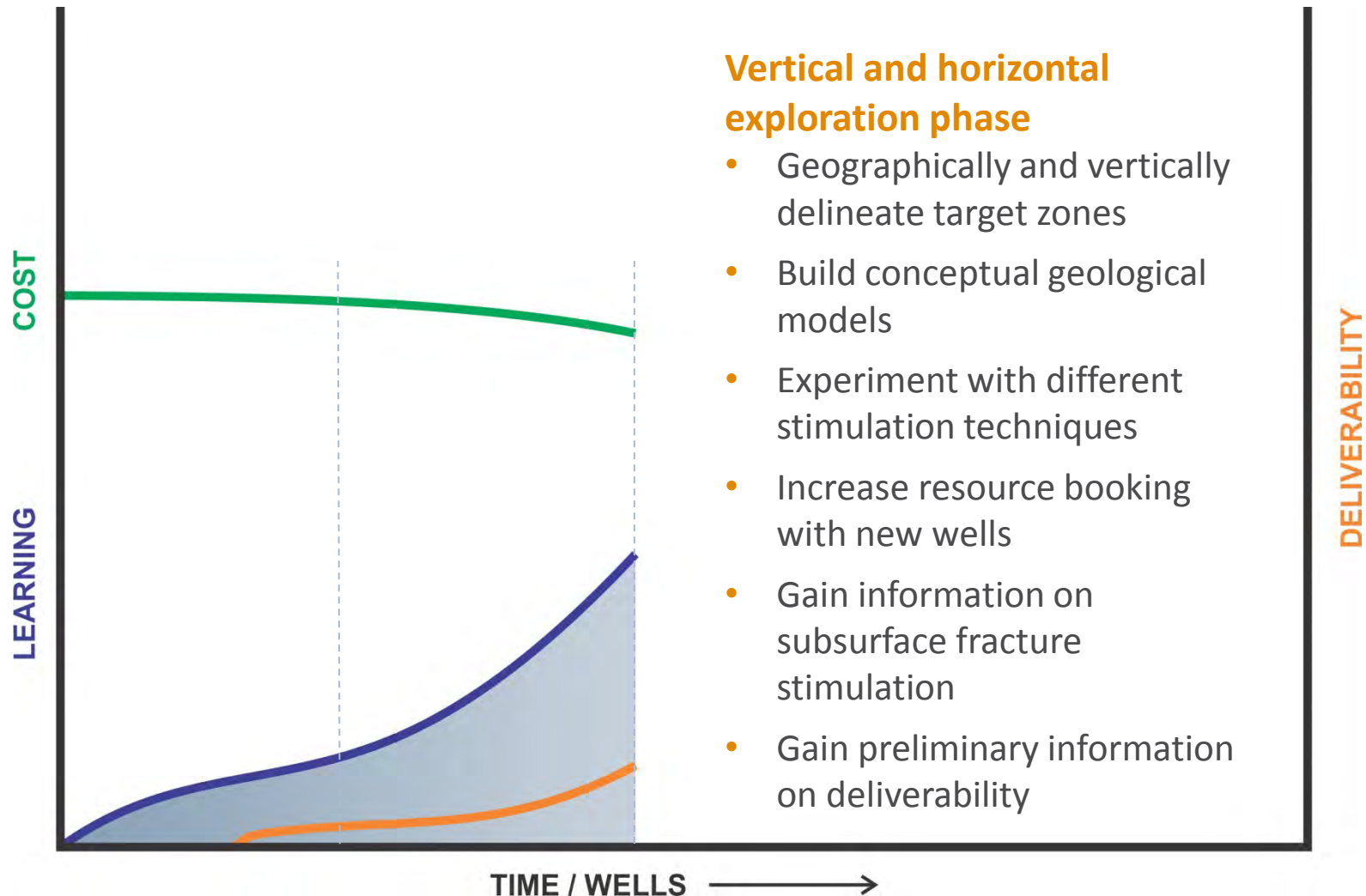
- A staged and methodical exploration and appraisal program
- Delineation of a significant untapped resource
- Flexible program to adjust to results
- Multiple formations present
- Process takes time and each piece of information important
- Mid-stride in an important stage of our assessment
- Moving up the learning curve



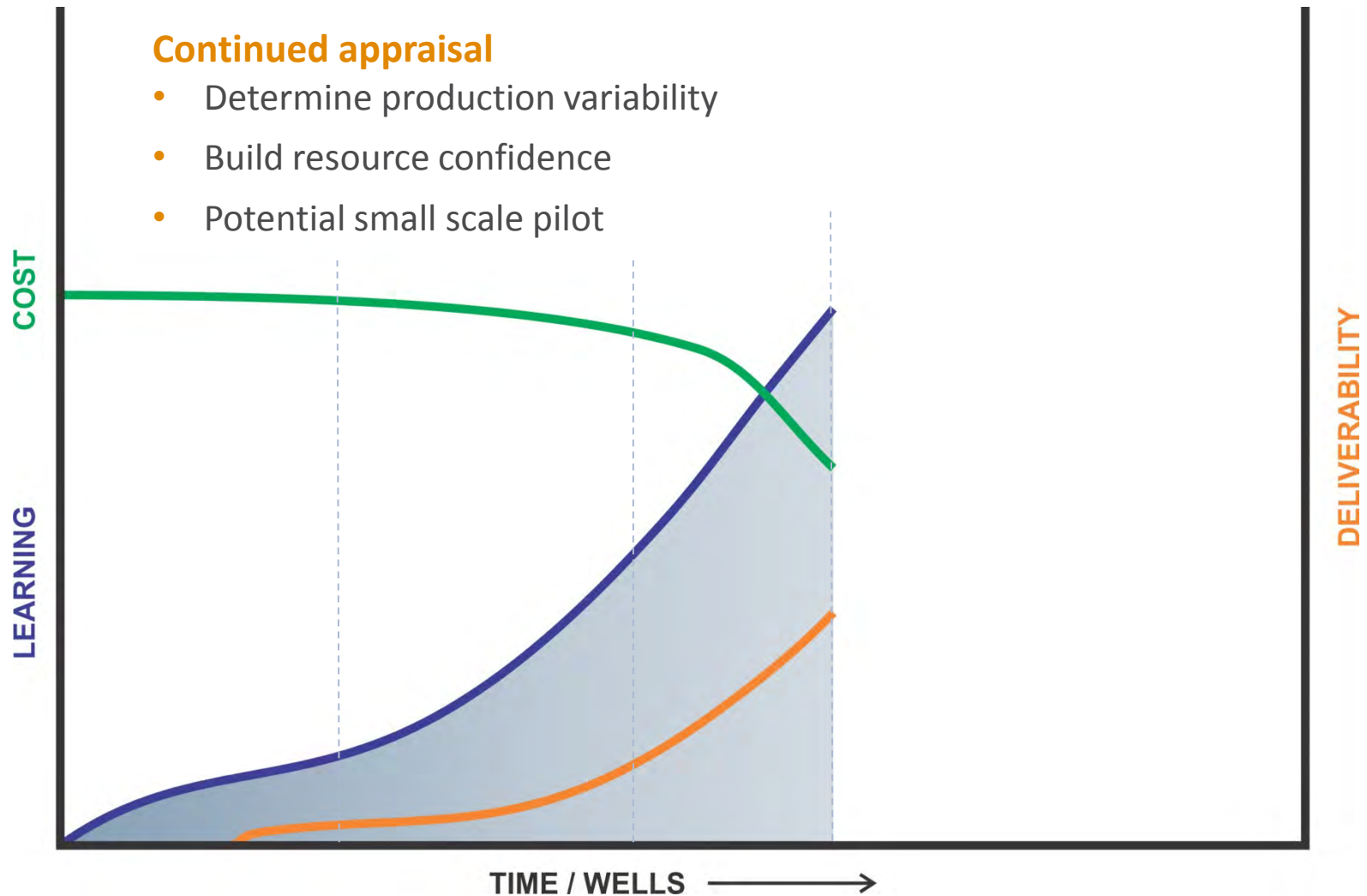
Permian section equity interests: PEL 218 (Beach 70% and operator, Chevron 30%) and ATP 855 (Beach 46.9% and operator, Chevron 18%, Icon Energy 35.1%)







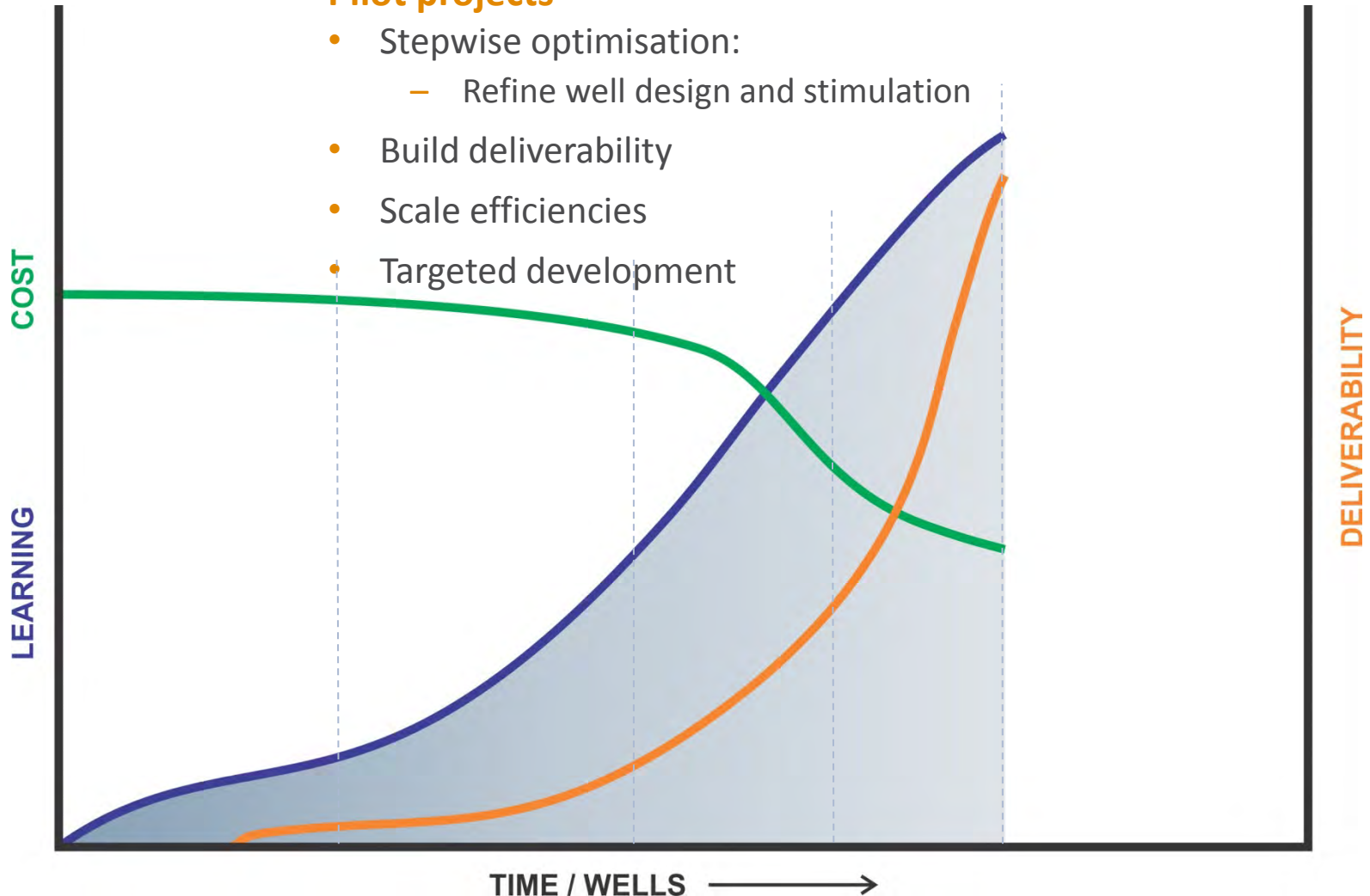
# Learning curve



# Learning curve

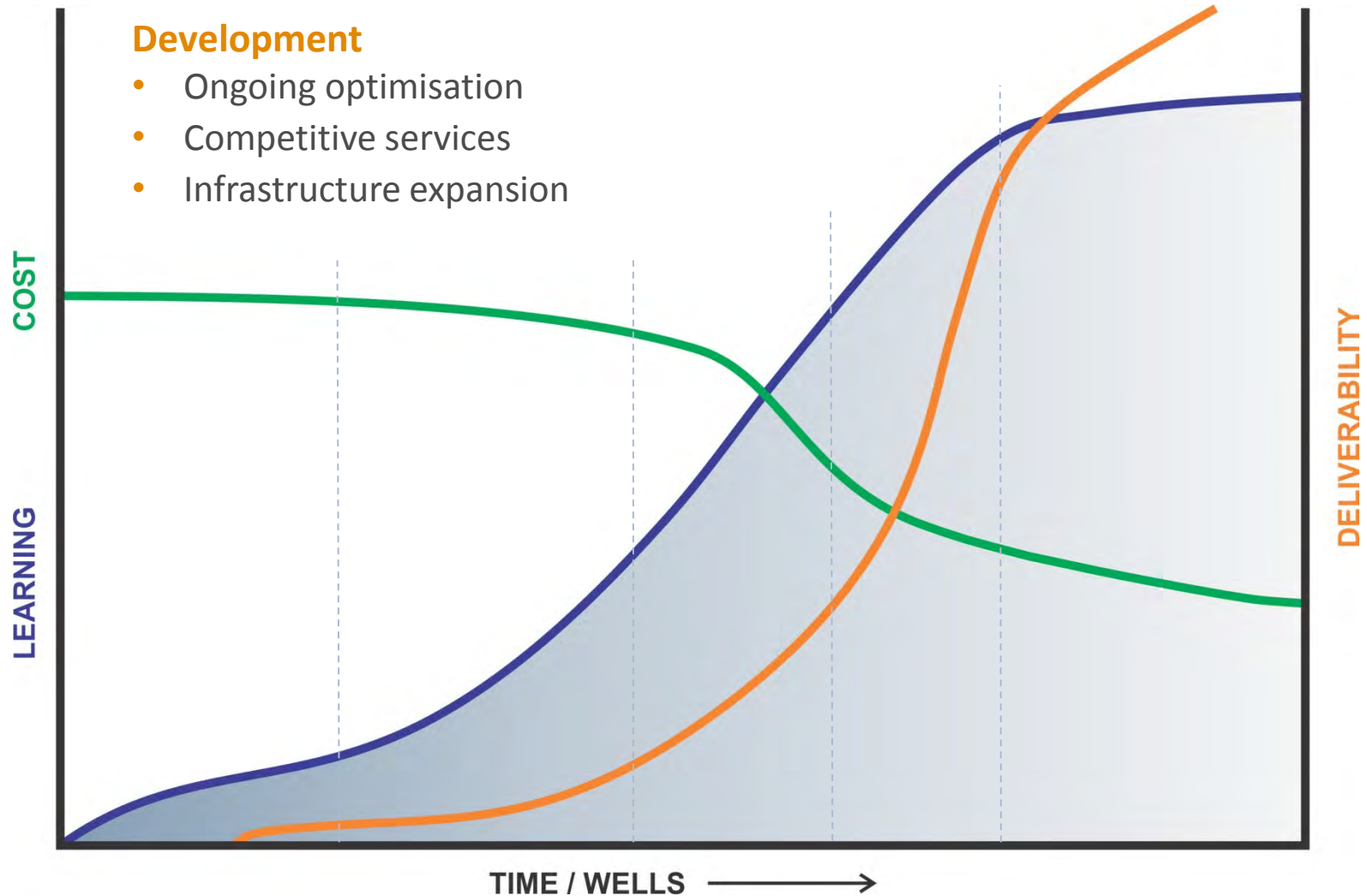
## Pilot projects

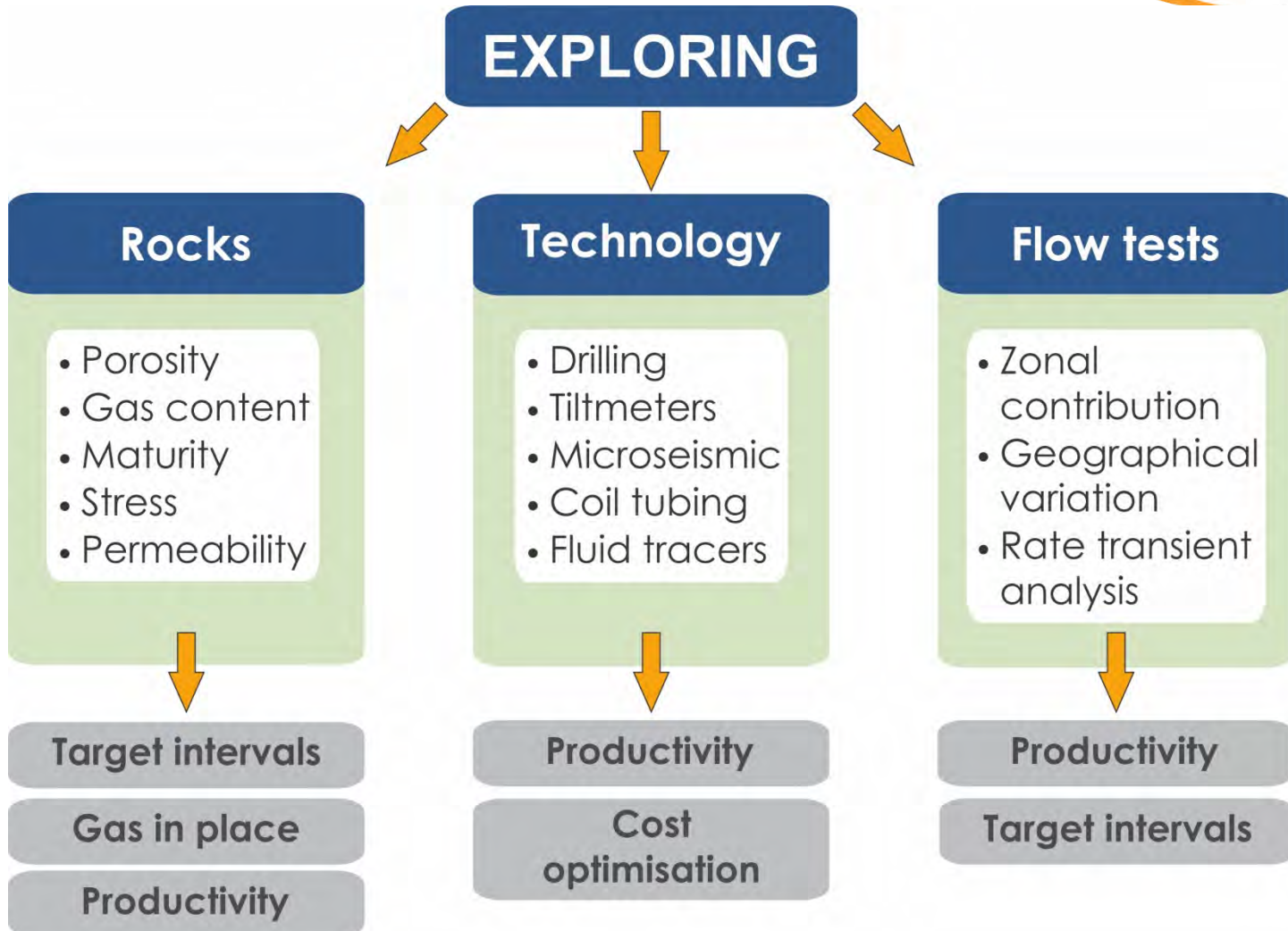
- Stepwise optimisation:
  - Refine well design and stimulation
- Build deliverability
- Scale efficiencies
- Targeted development





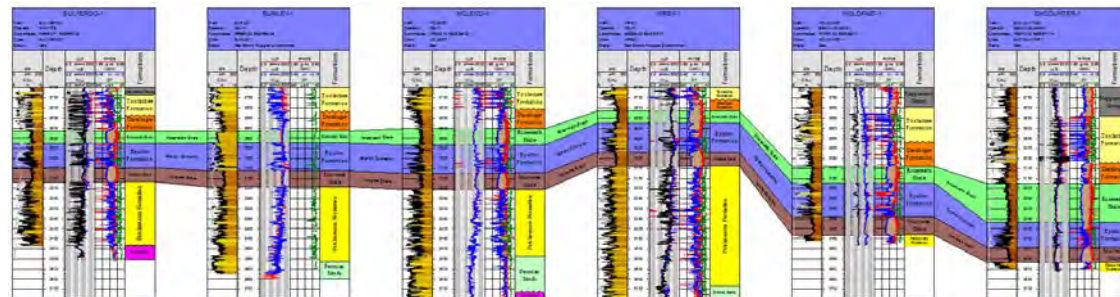
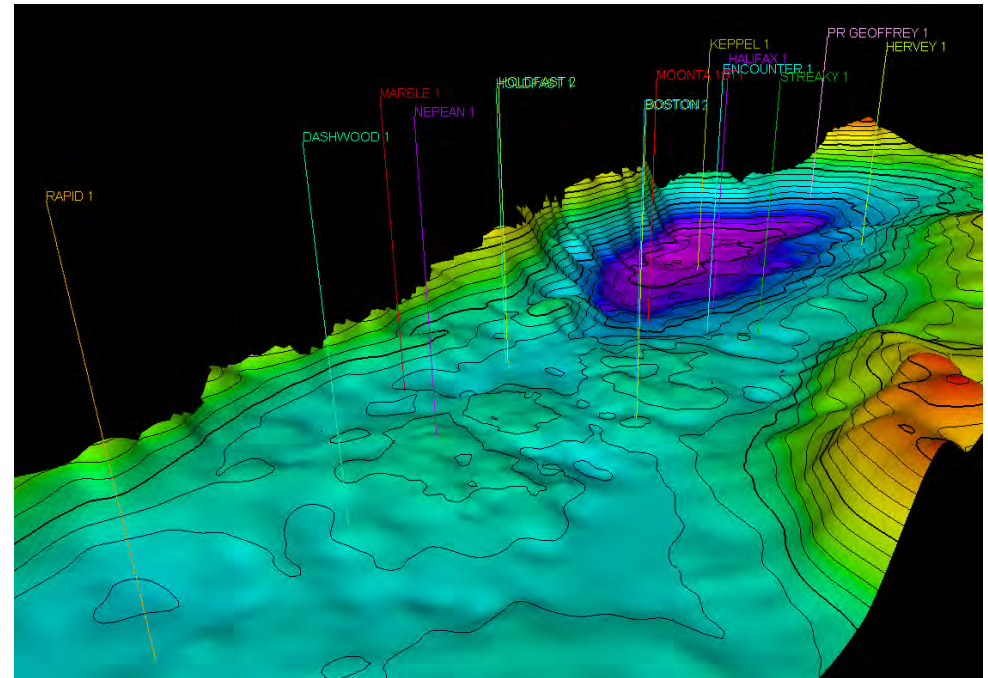
# Learning curve





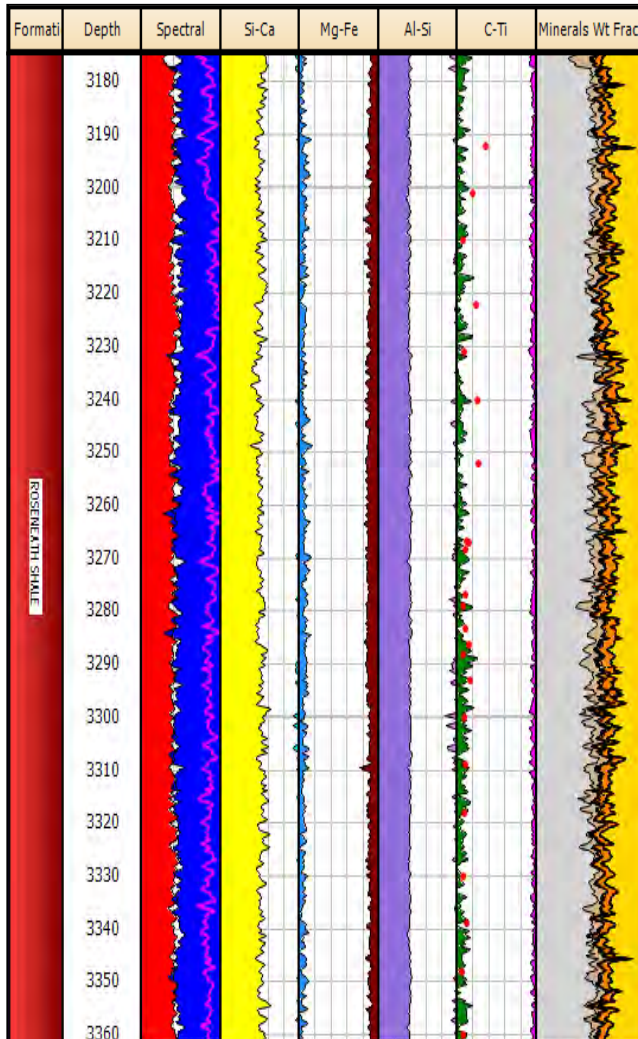
# Exploring rocks – regional scale

- Contributing to delineation of gas in place through the study of:
  - Trough architecture
  - Depositional environments
  - Maturity variation
- Contributing to understanding of productivity through the study of:
  - Structural history
  - Stress orientations and magnitudes
  - Geological facies variation
  - Overpressure





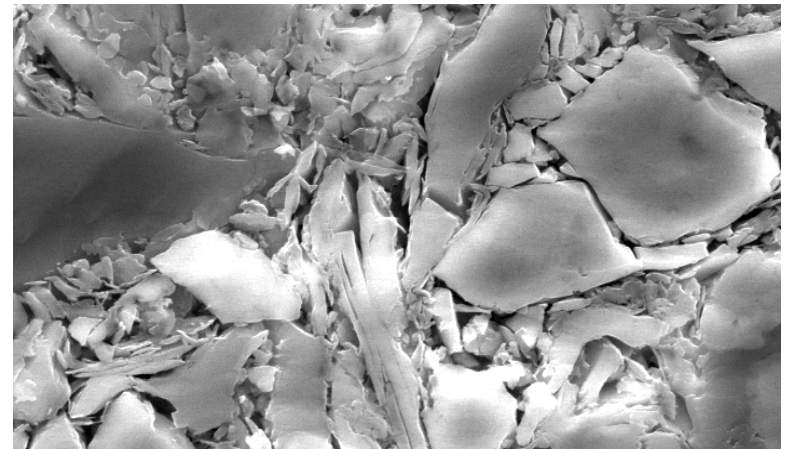
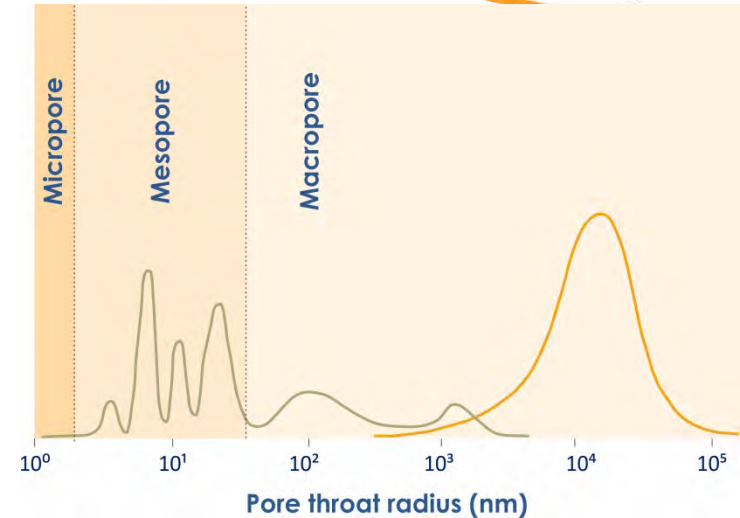
# Exploring rocks – well scale



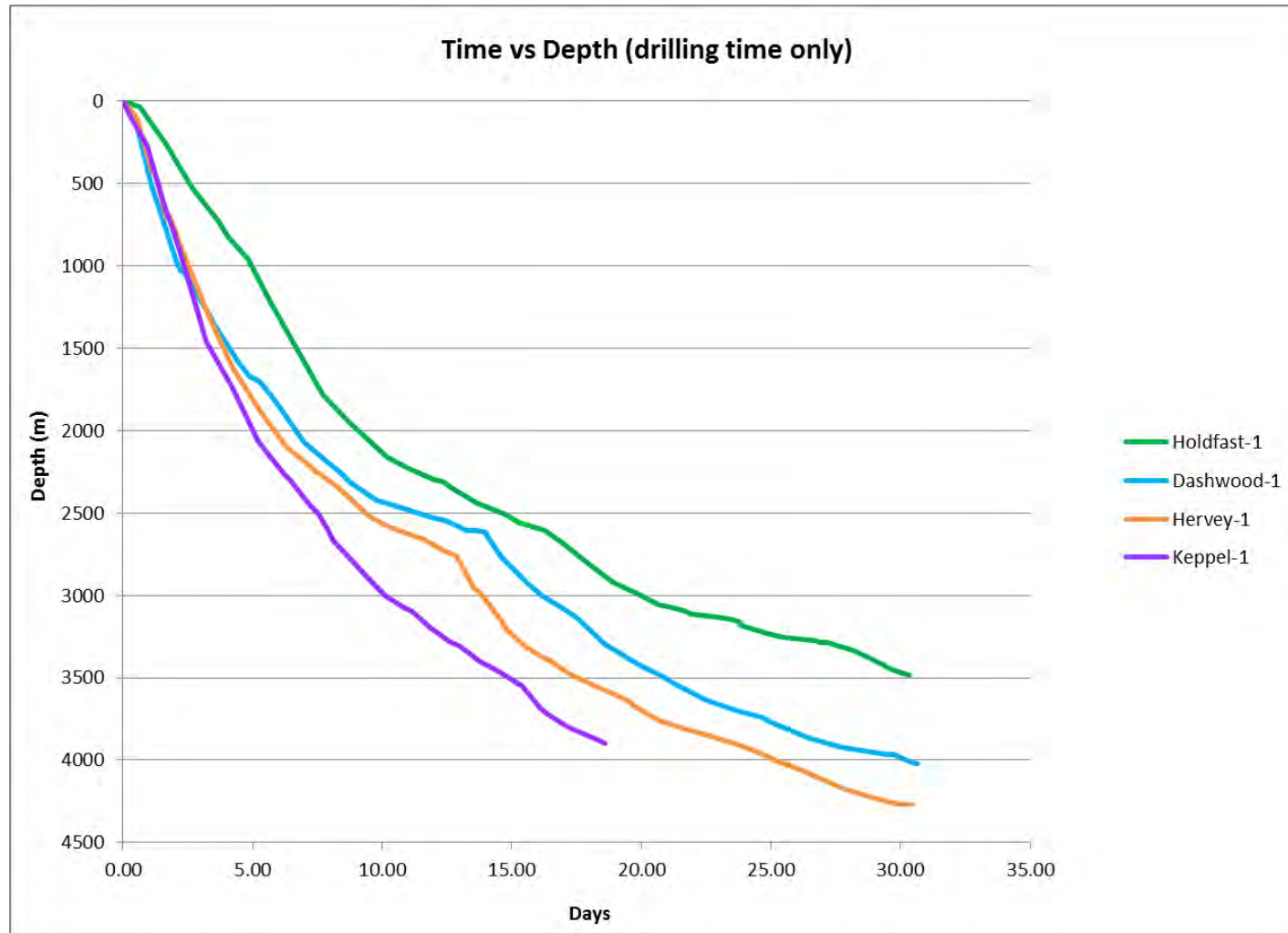
- Contributing to delineation of gas in place through the study of:
  - Organic content
  - Diagenesis
  - Porosity preservation
  - Lithology heterogeneity
  - Gas saturation
- Contributing to understanding of productivity through the study of:
  - Natural fracture distribution
  - Mechanical properties of the rocks
  - Permeability variation
  - Rock-fluid interactions

# Exploring rocks – micro scale

- Contributing to delineation of gas in place through the study of:
  - Micro porosity distribution
  - Adsorption capacity in shales
  - Free gas characterisation
  - Porosity enhancement through diagenesis
- Contributing to understanding of productivity through the study of:
  - Pore connectivity
  - Pore throat size distribution
  - Bound water behaviour
  - Micro fractures

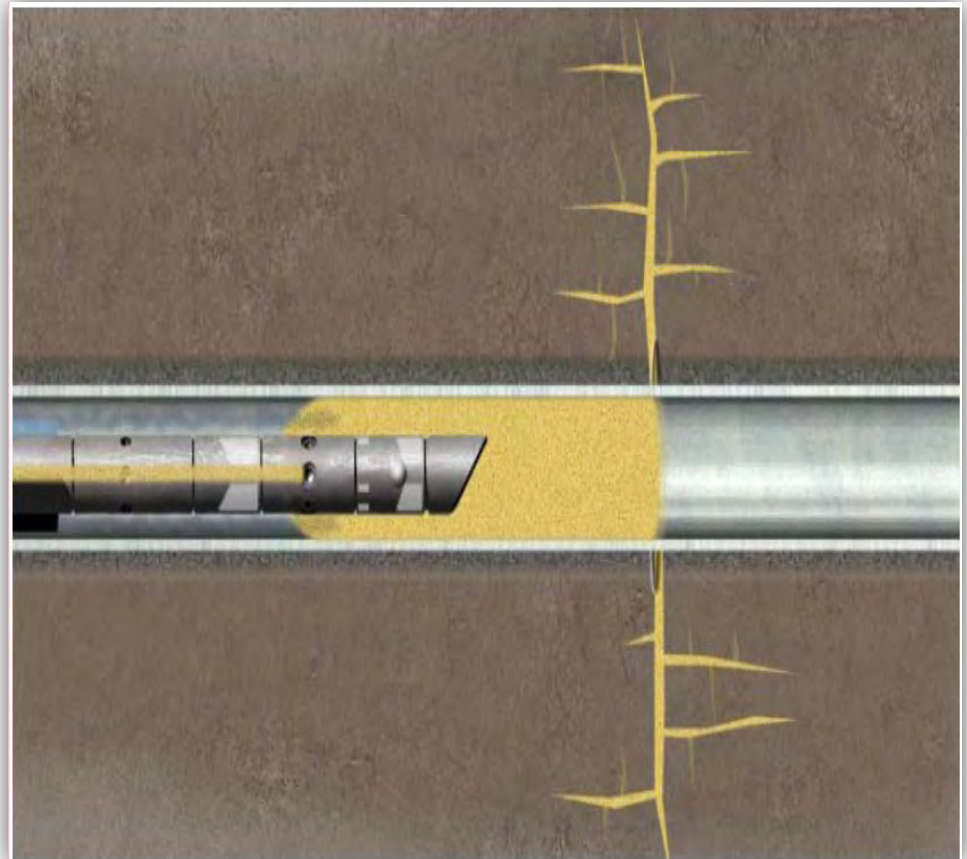


Boston-1 Roseneath Shale, horizontal field of view  $\sim 20\mu\text{m}$





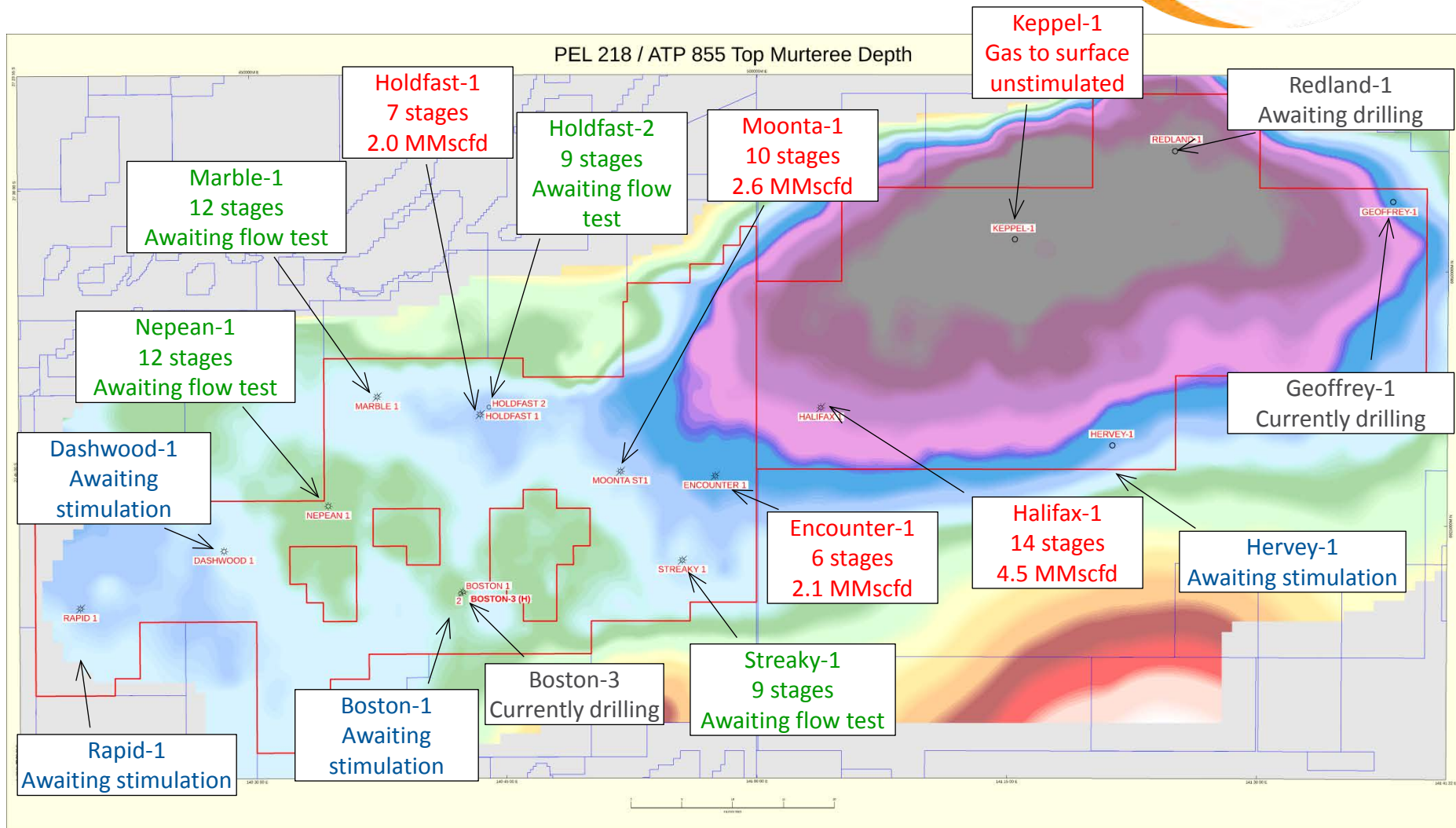
- New well design and stimulation designs are being evaluated
- Stimulation/ isolation methods:
  - Sand plugs (applied)
  - Flow through stimulation plugs (applied)
  - Coil tubing jetting (being utilised)
  - Coil conveyed stimulation (considering potential for downhole mixing)
  - Sleeve techniques (in consideration)



Down hole mixing of water and proppant

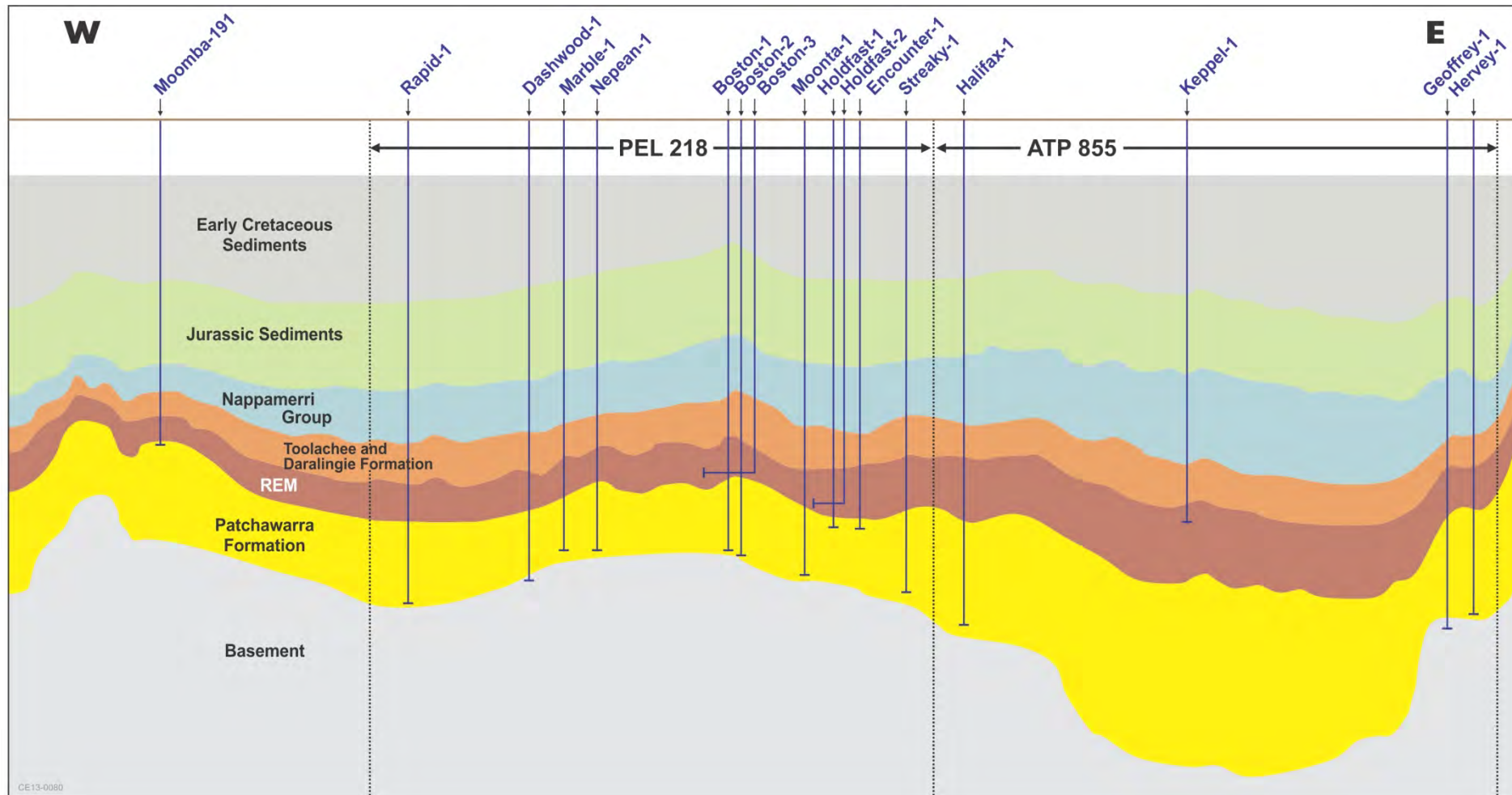
Source: Halliburton

# Exploring flow rates



Nb. Subject to JV approval. Stated flow rates are peak flow rates.

# Exploration and appraisal cross section



Note: Well locations are approximate only and may have been shifted to show their correct structural position on the cross section



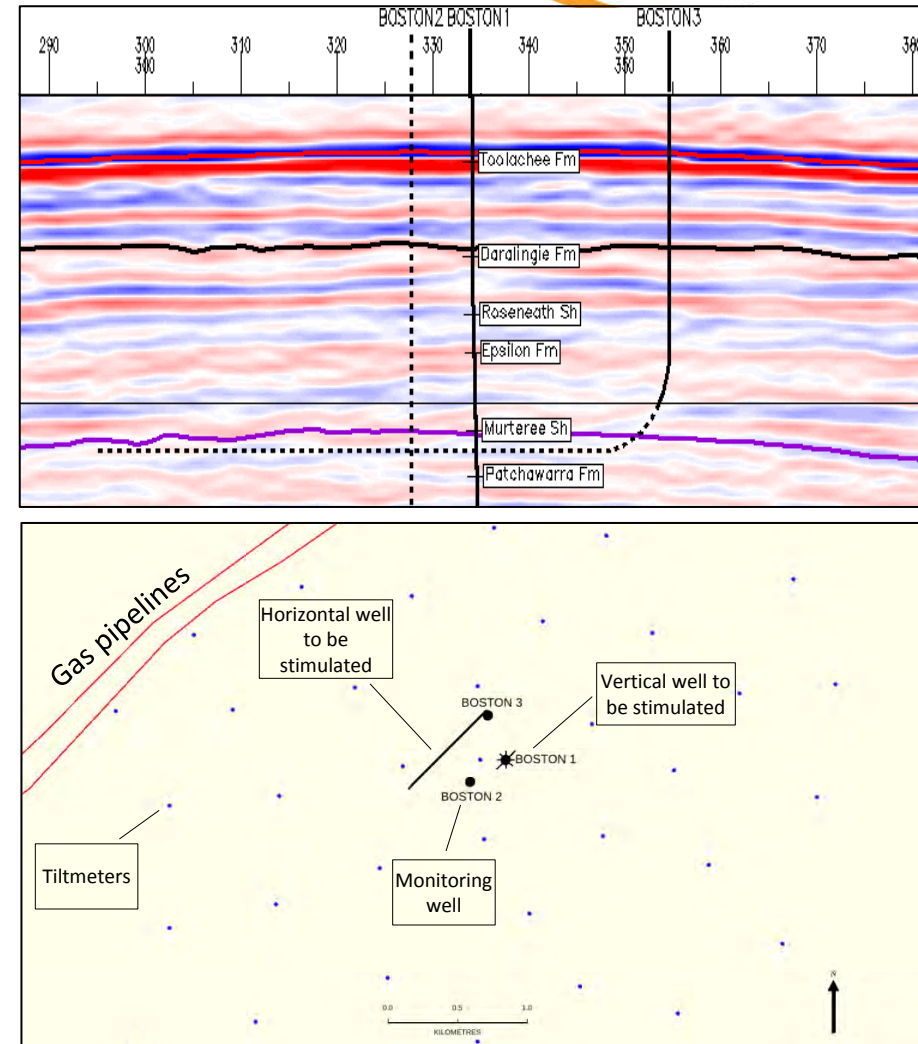
# Holdfast-2 update

- Holdfast-2 drilled laterally into the Murteree shale
- Fracture stimulation completed
- Stimulation monitored by both downhole and surface micro-seismic tools as well as tiltmeters
- Utilised monitoring technology to trial different fracture stimulation designs to increase understanding of formation response to:
  - Change in fluid types
  - Different stage volumes
  - Perforation/jetting options
- Clean up flow commenced
- Initial flow data expected by mid-December

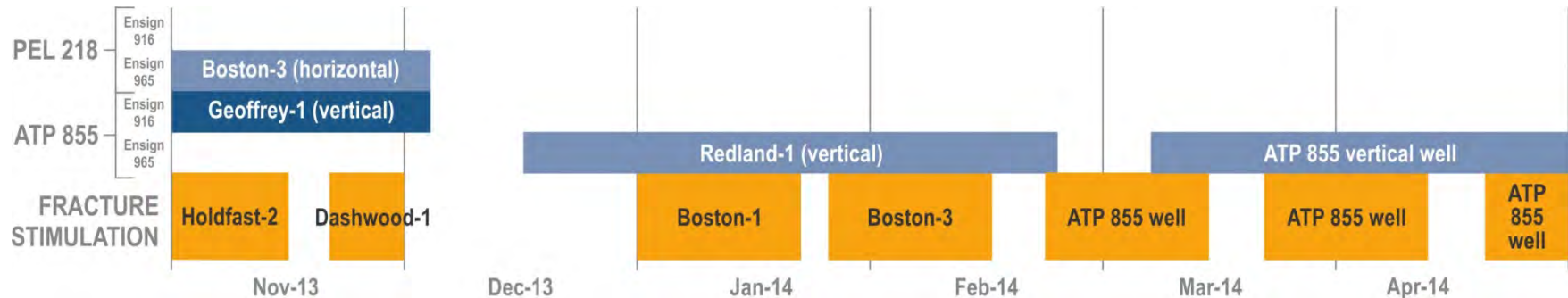
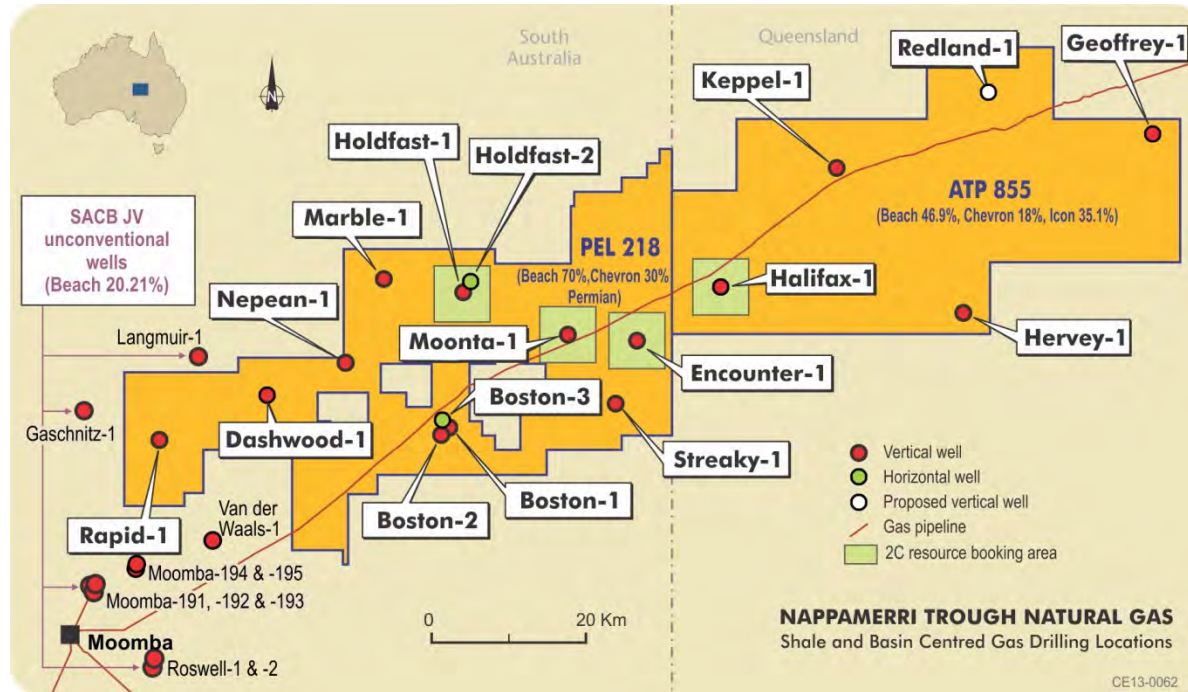


# Focused learning – Boston

- Boston area selected for detailed program due to:
  - Strong gas shows while drilling
  - Good reservoir quality
  - Proximity to raw gas line
- Boston-3 horizontal well drilled in the lower Murteree Shale
- Boston-2 drilled in optimal location to micro-seismically monitor fracture stimulation in Boston-1 and Boston-3
- Boston project aims to increase understanding of:
  - Sand body continuity
  - Well spacing
  - Fracture geometry
  - Stimulated rock volume
  - Optimal fracture spacing



# NTNG wells and proposed timeline



Note: Timeline subject to third party equipment delivery, weather and joint venture and regulatory approvals



# Financial

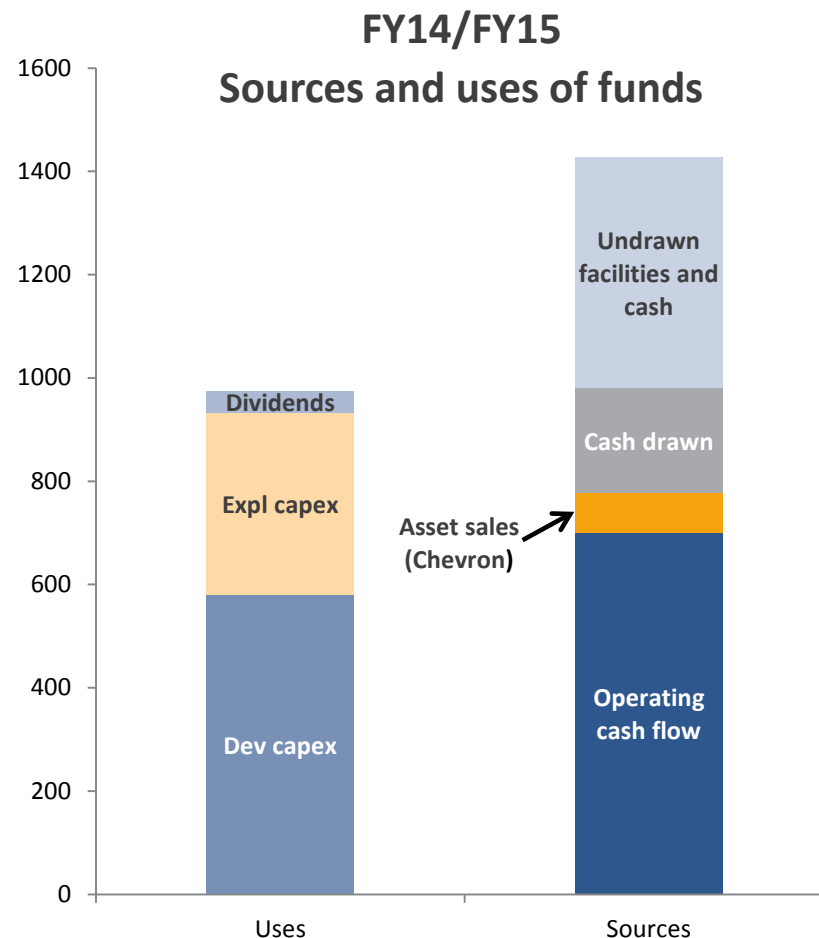
Peter Sandery – General Manager Accounting



# Sources and uses of funds FY14/FY15

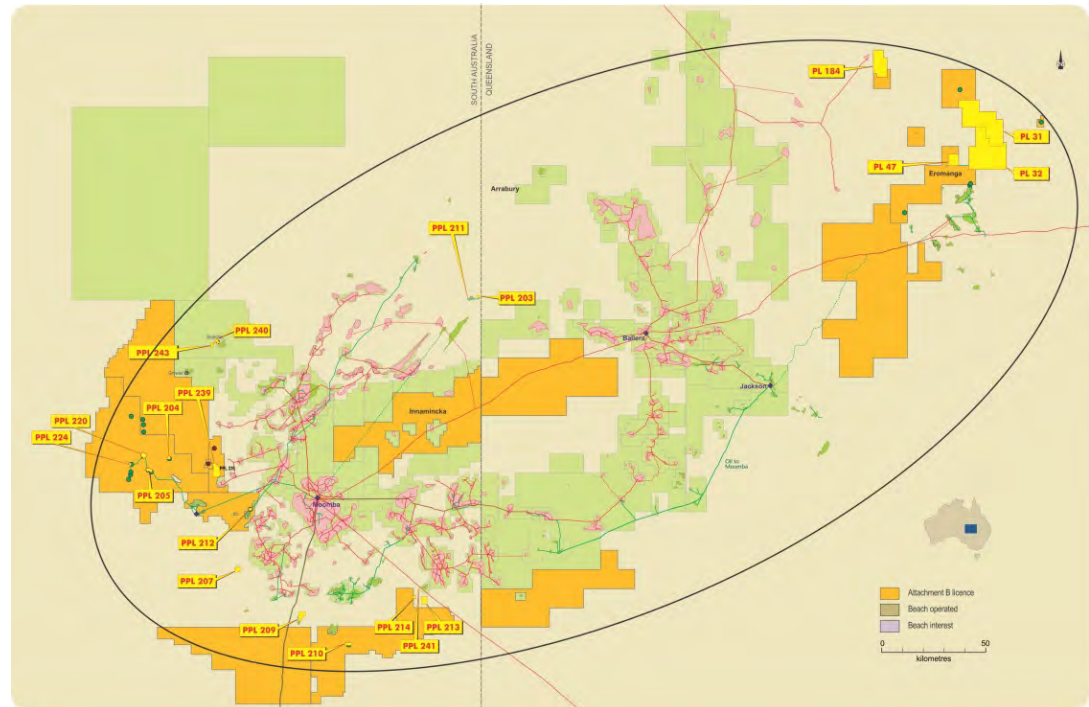
## Sources and uses of funds assumptions:

- \$402 million cash balance (as at 30 Sept)
- Secured \$320 million debt facility
- Operating cash flow forecast includes minimal exploration success
- Chevron Stage 2 funds received
- Capex forecast has no material acquisitions/divestments/or other farm-outs
- Oil price of A\$110/bbl



# Petroleum Resource Rent Tax (PRRT)

- Extension to onshore projects
- Combination certificate received for all Cooper Basin production licenses, therefore treated as one project
- Transitional arrangements, with choice of starting base:
  - Book value;
  - Market value; or
  - Look back
- Delhi interests provide substantial starting base value
- No PRRT impact expected in the short to medium term
- Tax asset not recognised on balance sheet







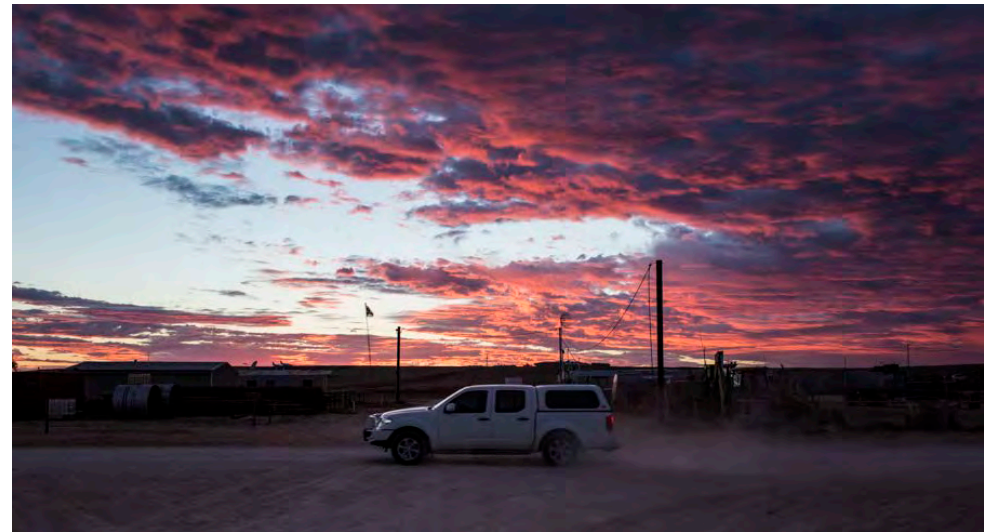
# Chevron Transaction

## Treatment of payments

- Minimal guidance from accounting standards on farm-outs
- General practice to recognise:
  - cash received as a reduction in carrying value; or
  - profit/loss on sale with no value assigned to the carry

## PEL 218 (farm-out)

- Stage 1 cash received of US\$36 million reduced the carrying value
- Same treatment would be applied to Stage 2 cash payable (US\$41 million) and post Stage 2 commitment bonus (US\$35 million)



## ATP 855 (asset sale)

- Stage 1 cash received (US\$59 million) treated as asset sale with excess above carrying value recognised as profit
- Same treatment would be applied to Stage 2 cash payable (US\$36 million)

# Third party sales and purchases

## Oil

- Third party crude to Moomba purchased by the SACB JV
- Purchased at market price, net of account handling and transport costs
- Sales volumes increasing with new fields and pipelines
- Accounting treatment has purchases at market price, with handling and transport treated as cost recovery
- Intercompany sales eliminated

## Gas

- Commercial arrangements provide flexibility
- PEL 106B purchases
- Intercompany sales eliminated

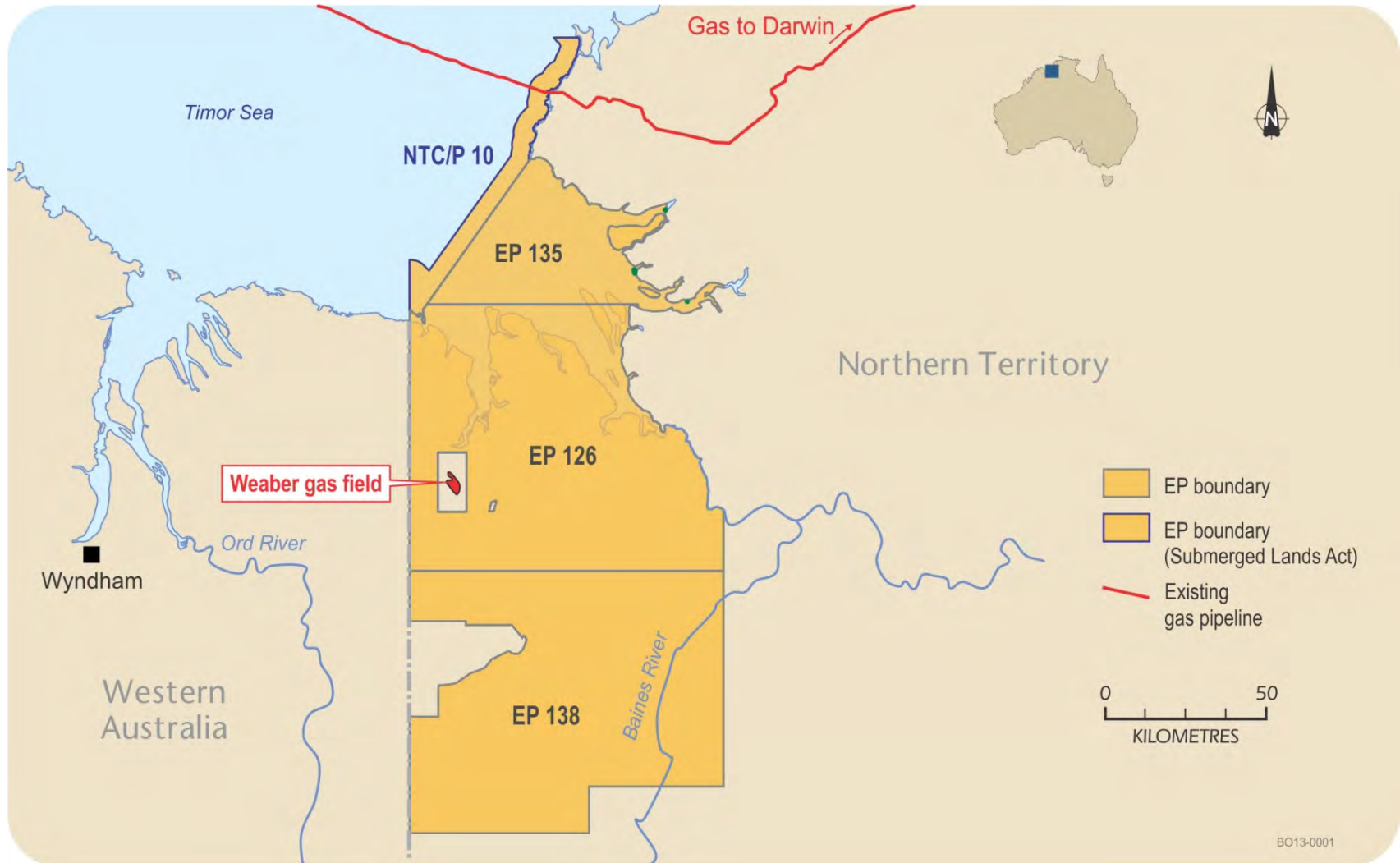


# Appendices

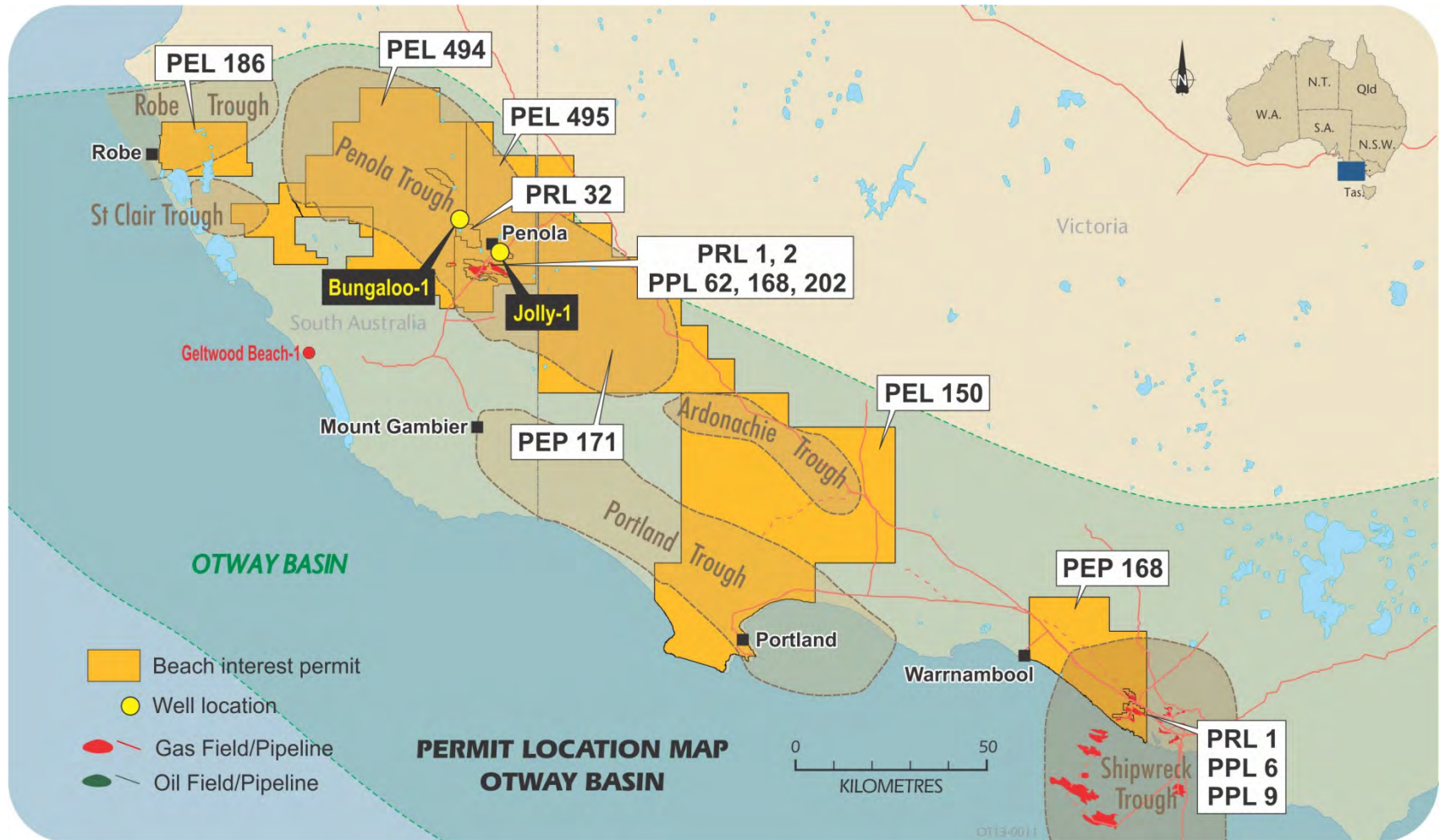




# Bonaparte Basin



# Otway Basin



# Chevron transaction summary



- Subject to joint venture approvals, the key work program elements envisaged across the two permits involve an initial exploration program to be followed by pilot production programs

## PEL 218 – potential payments

### Stage 1 (initial 30%) <sup>(1)</sup>

- US\$36 million cash
- US\$95 million carry

### Stage 2 (additional 30%) <sup>(2)</sup>

- US\$41 million cash
- US\$47 million carry

- Commitment bonus payment of US\$35 million

## ATP 855 – potential payments

### Stage 1 (initial 18%)

- US\$59 million cash

### Stage 2 (additional 18%) <sup>(2)</sup>

- US\$36 million cash

(1) Vertical wells exclude Holdfast-1 and Encounter-1

(2) Permian section equity interests post stage 2 farm-in would be: PEL 218 (Beach 40%, Chevron 60%) and ATP 855 (Beach 28.9%, Chevron 36%, Icon Energy 35.1%)

Note: Chevron has the option to continue or withdraw at the end of each stage



# SACB JV unconventional and infill

## Moomba wells - nomenclature

Current Well Name	Previous Well Name	Purpose	Status
Roswell 1	Roswell 1	Vc 50 coal, REM, Microseismic	Flowing from Vc 50 post frac
Roswell 2	Roswell 2 Horizontal	Roseneath Shale 1000 -1500'	Spud 12 Oct
Moomba 192	Aurora 1 Vertical	REM, Microseismic	Status being reviewed on Patch gas
Moomba 193	Aurora 2 Horizontal	Murteree Shale	After Roswell 2
Moomba 194	Fortuna 1 Vertical	REM and Patch, Microseismic	C & S 7 Oct REM Frac
Moomba 195	Fortuna 2 Horizontal	Murteree Shale	After Moomba 193
Moomba 196	Moomba North 30 Vertical	Gas Development	Spud 16 Oct
Moomba 197	Moomba North 44 Vertical	Gas Development	After Moomba 196
Moomba 198	Moomba North 46 Pad Well	Gas Development	Spudded 9 Oct
Moomba 199	Moomba North 45 Pad well	Gas Development	After Moomba 198
Moomba 200	Moomba North 47 Pad well	Gas Development	After Moomba 199
Moomba 201	Moomba North 48 Pad well	Gas Development	After Moomba 200
Moomba 202	Moomba South 55 Vertical	Gas Development	After Moomba 197
Moomba 203	Moomba 203	REM and Patch	1Q 2014 Possible replacement for M 192

# Contact Information



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