

Great Southern Drilling Opportunities

Strategies for unlocking value in the Canterbury & Great South Basins of New Zealand

PESA DEAL DAY

Dr Chris McKeown

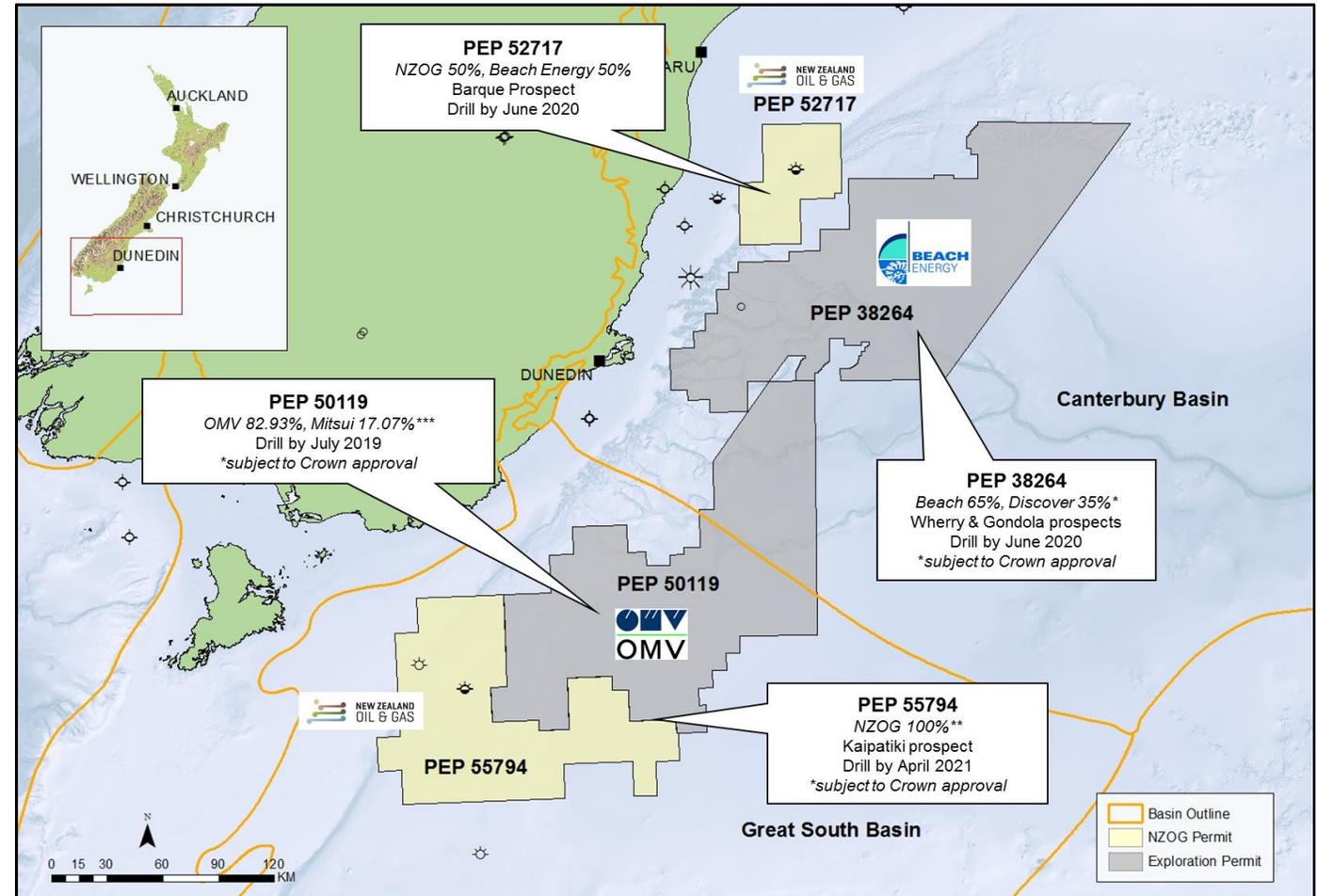
VP Exploration & Production

May 2018

New Zealand's Great Southern Drilling Opportunity

South Islands upstream landscape is evolving

- PEP 52717 Change of Conditions granted
 - Drill or Drop extended to April 2019
- Woodside withdrawing from PEP 55794 *
 - NZOG to acquire 100% (and Operatorship) (subject to regulatory approval)
- Shell exiting New Zealand & PEP 50119 **
 - Commitment well currently planned to be drilled in early 2019 (now by OMV?)
- Anadarko exiting Wherry (PEP 38264) ***
 - Leaving Beach & Discover
 - Extension situation being worked through



*

Assumes Woodside withdraw from permit

**

Assumes OMV acquire Shell's interest in PEP50119

Assumes Lattice Energy Deal is granted Section 41 consent and Beach and Discover resting interest 65:35

Kaipatiki Prospect

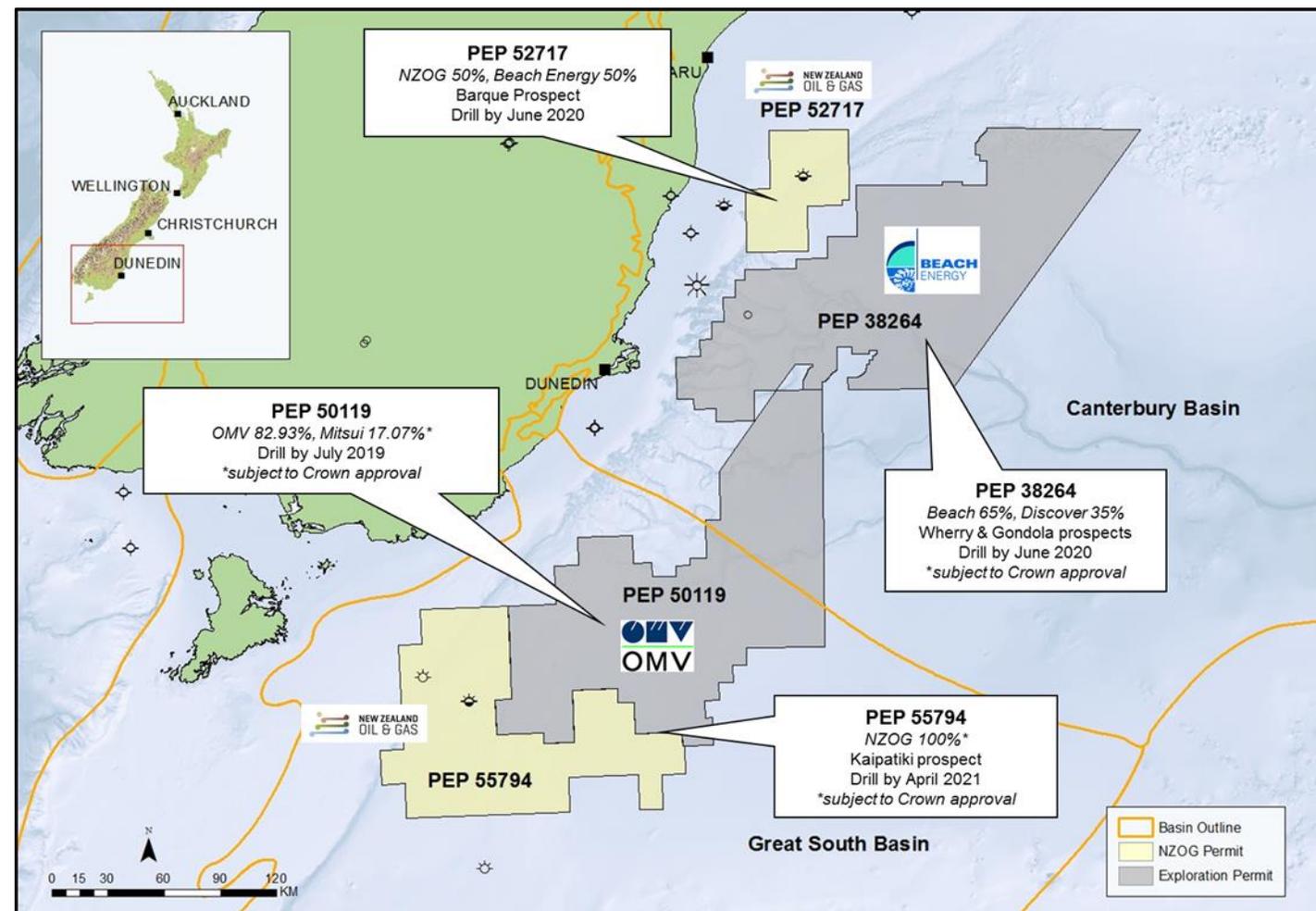
~750 mmbbl liquids and ~7.3 tcf gas in place (mean) within a Proven Petroleum System *

PEP 55794

- NZOG (Operator) 100% *
- Permit Area: 7,983 km²
- Awarded: 1 April 2014– March 2029
- Next step - Drill or Drop option 31 March 2020

An excellent address in the Great South Basin

- A proven hydrocarbon system with large kitchen
- Frontier area with only seven offshore wells
 - Discovery Kawau-1
 - Shows in Toroa-1 and Tara-1 (located within PEP 55794)
- Metocean conditions comparable to Great Australian Bight
- Excellent port infrastructure ~200km

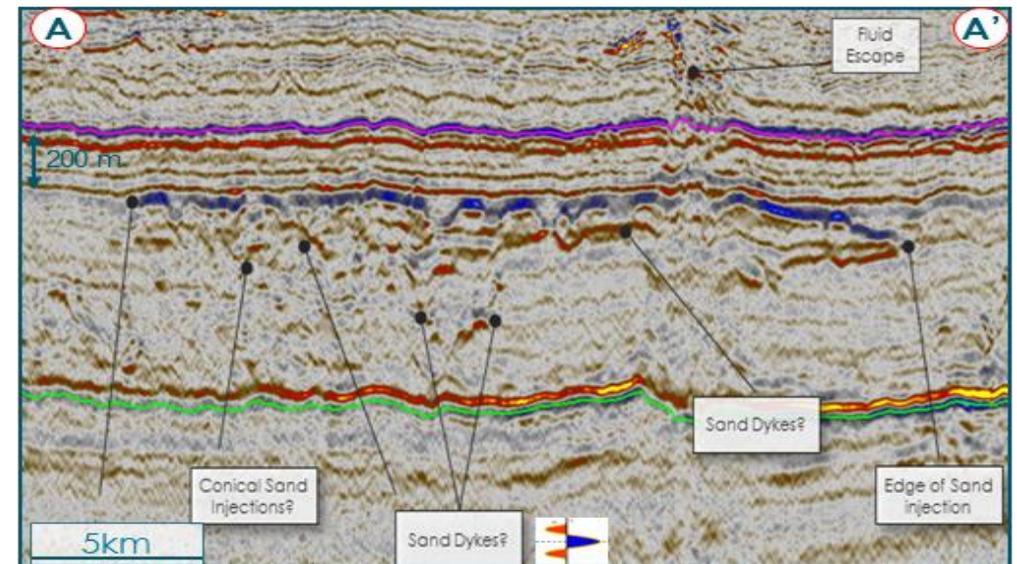
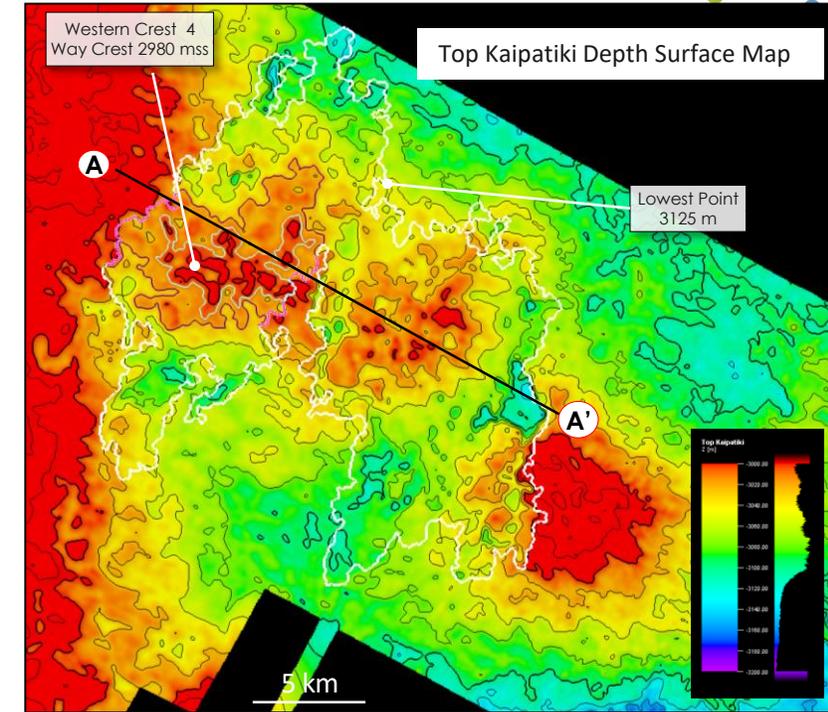
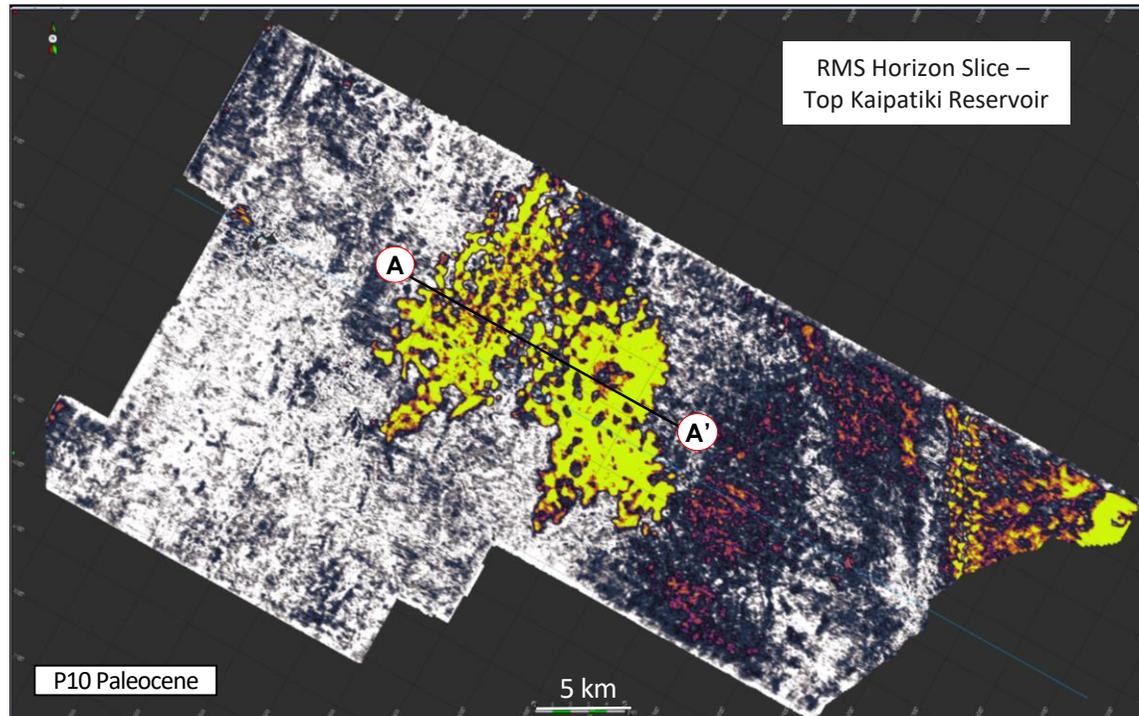


* Assumes Woodside (70%) withdraw from permit and NZOG receive regulatory approval of Operatorship

Kaipatiki

Four-Way, DHI Supported Trap

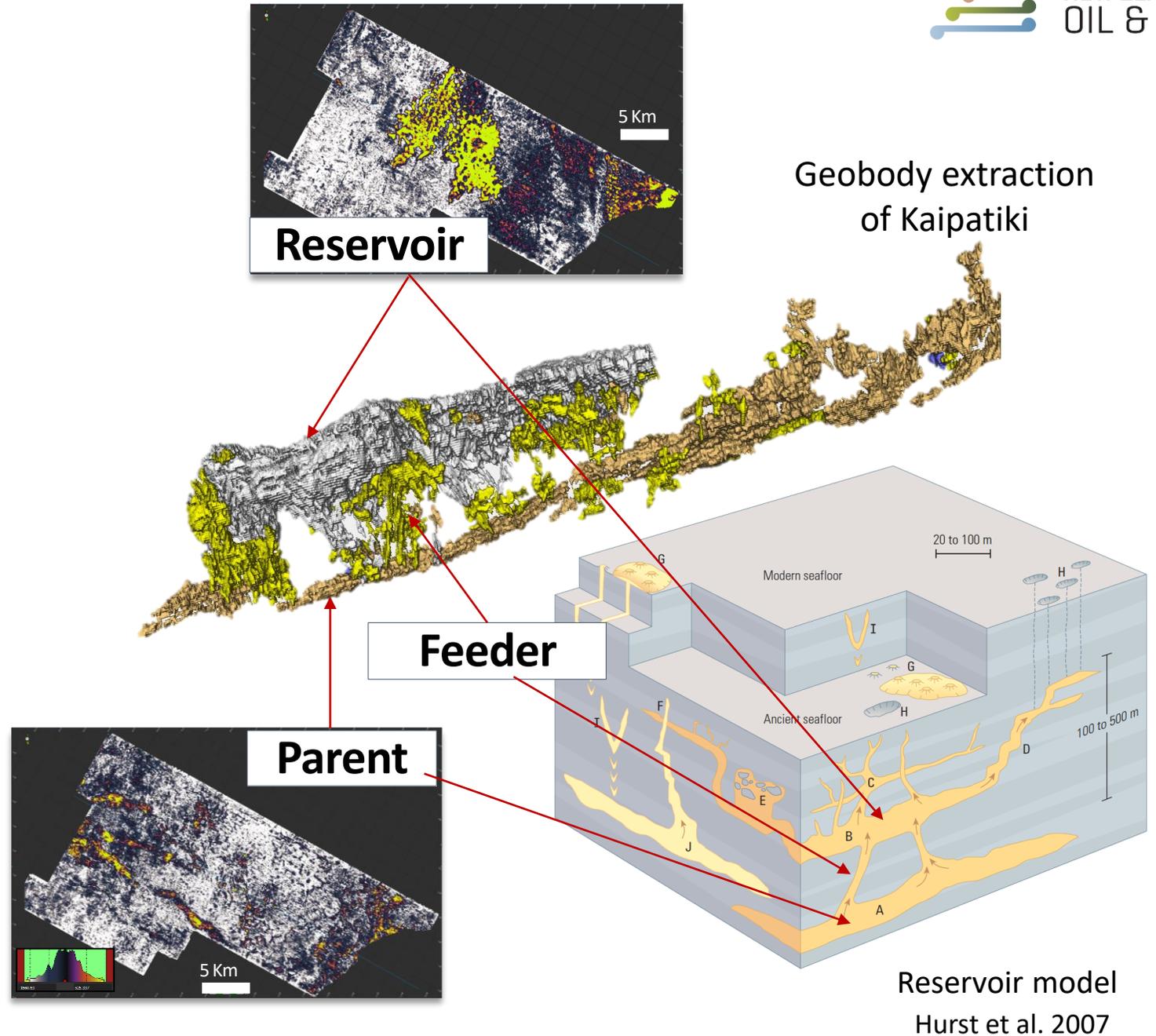
- 162 km² four-way depth closed injectite mapped on recently acquired PSDM 3D seismic
- Structurally conformable DHI supported prospect
- ~1000m water depth & ~2,000m bml to test primary target
- High quality primary reservoir expected



Kaipatiki: injectite play

New play opportunity in New Zealand

- Remobilised deep water sandstone
- Development of overpressure followed by fluidization and injection of sandstone up section
- Productive play type in Paleogene section of North Sea
 - Alba, Forth/Harding, Balder, Volund and Gryphon fields
- Commonly associated with rift related basin forming faults, as well as polygonal faulting
- Several similar structures observed on 2D data



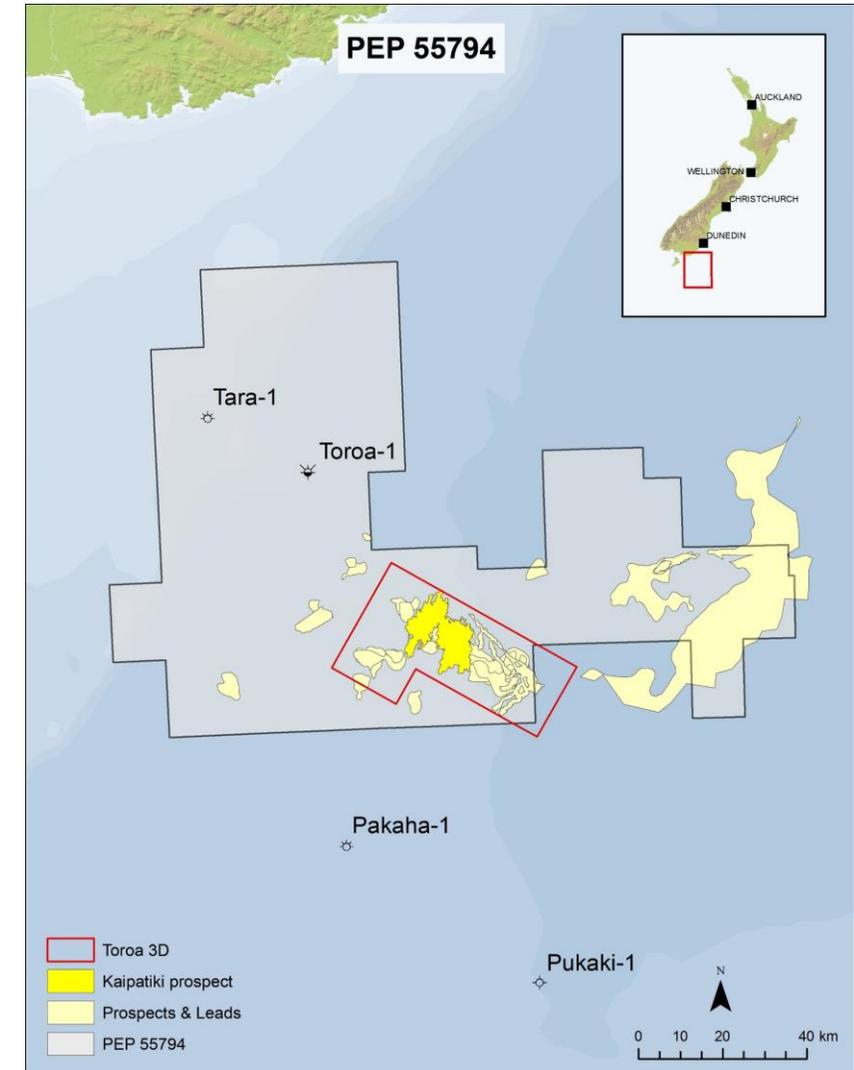
Kaipatiki volumes

~750 mmbbl liquids and ~7.3 tcf gas in place (mean)

Kaipatiki Summary				
Volumes Gas (bcf) and Condensate (mmbbl)				
	Mean	P90	P50	P10
In Place	7,322 bcf	1,579 bcf	6,076 bcf	15,218 bcf
Recoverable Recycling	482 mmbbl			
Recoverable Gas to shore	272 mmbbl and 5,565 bcf			

Material Basin-Opening Commercial Opportunity

- NZOG has documented several commercialisation options
 - Gas to shore
 - Offshore liquids stripping of the **primary reservoir** yields a mean of **482 mmbbl**
- Range of play types at multiple levels
- Over 1 billion bbl of upside prospectivity identified on regional 2D seismic



Kaipatiki: Timeline and process

Current PEP 55794 Permit Status

	2018		2019		2020		2021		2022		2023		2024		2025		2026		2027		2028		2029	
	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
PEP 55794	Committed activity	Committed activity	Committed activity	Committed activity	Commit to drill		Drill well by								Commit to drill								Drill well by	

Committed activity
 Commit to drill
 Drill well by

- High quality, thorough G&G work completed by Operator (Woodside)
- Transfer of Operatorship pending (Woodside withdrawal due to change in corporate strategy)
- All commitments fulfilled to date
- Next commitment point
 - Drilling commitment by 31 March 2020
 - Drill by 31 March 2021
- Low cost entry
- Back-costs to date US\$ 15 million

Farm Out Process

- Comprehensive data pack available
- Large equity available on negotiable terms
- Operatorship available, if qualified for frontier operations
- Offers in writing by **November 2018**

Barque Prospect

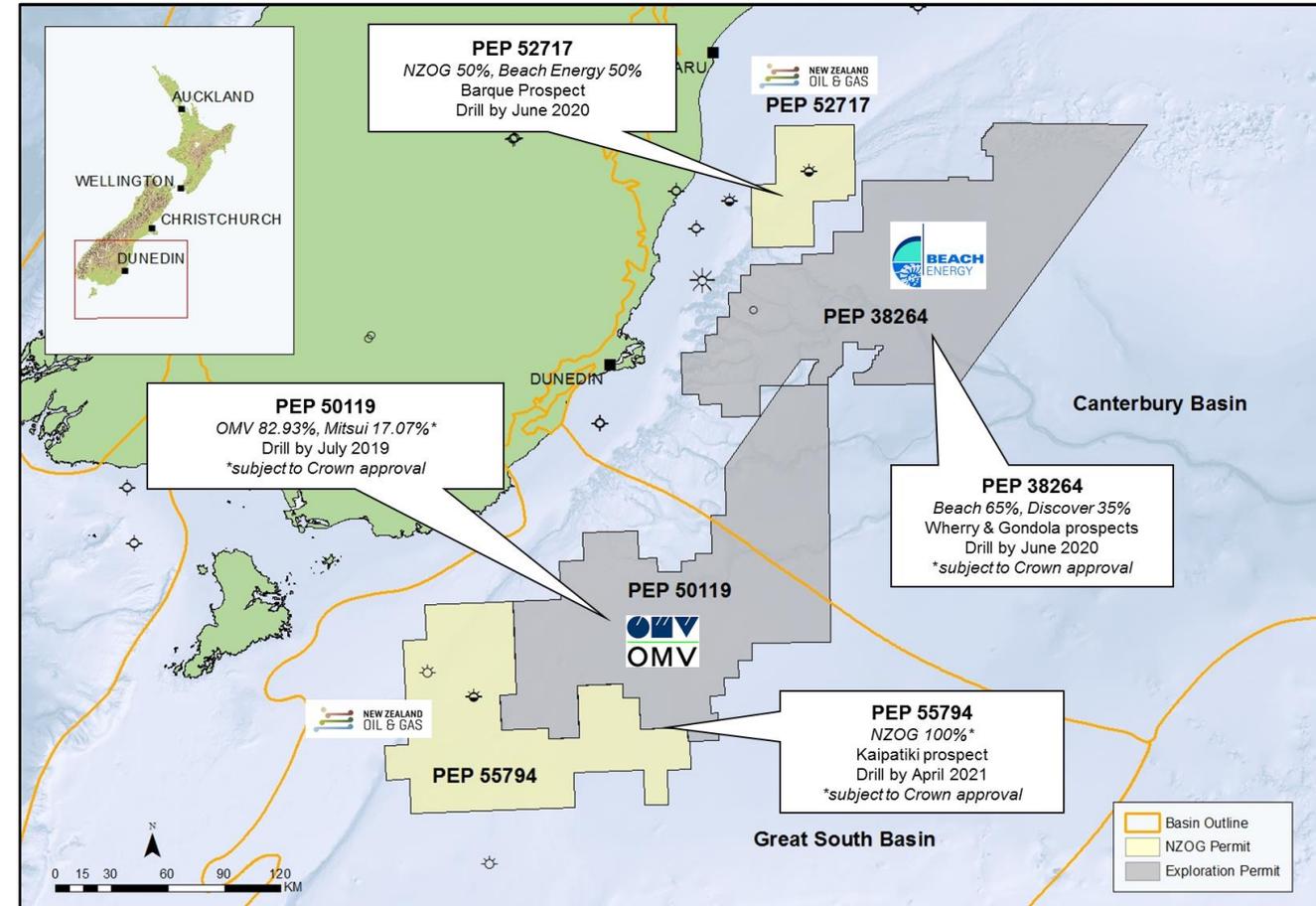
~1.6 billion bbl liquids and ~11.2 tcf gas in place (mean) within a Proven Petroleum System

PEP 52717

- NZOG (Operator) 50%, Beach Energy 50%
- Permit Area: 3,423km²
- Awarded: 11 October 2012 – extended to Oct 2027
- Next step - Drill or Drop option April 2019

An excellent address in the Canterbury Basin

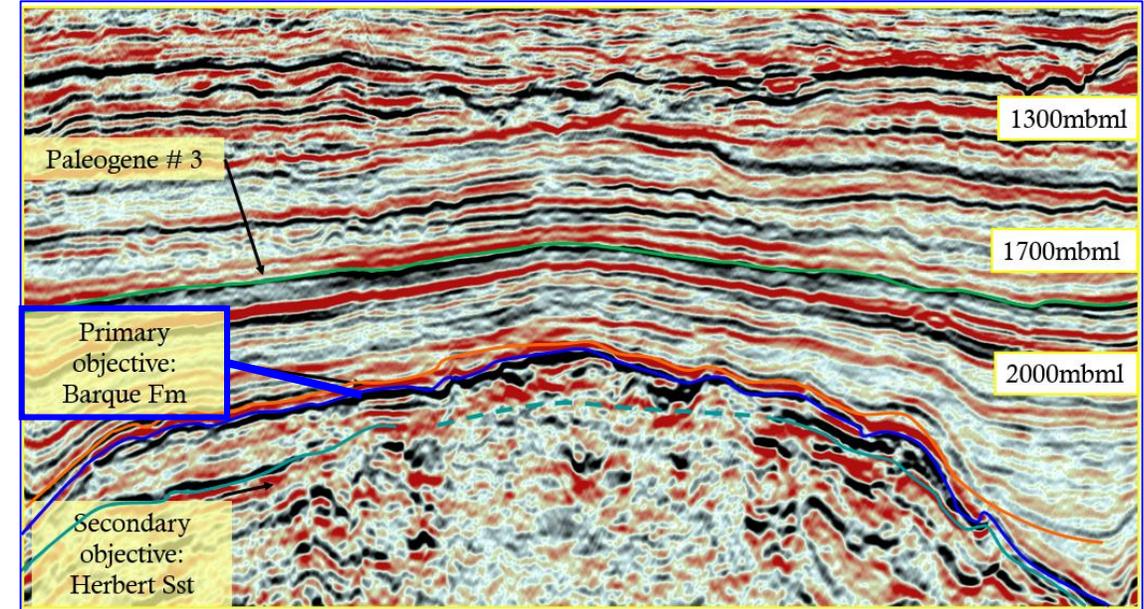
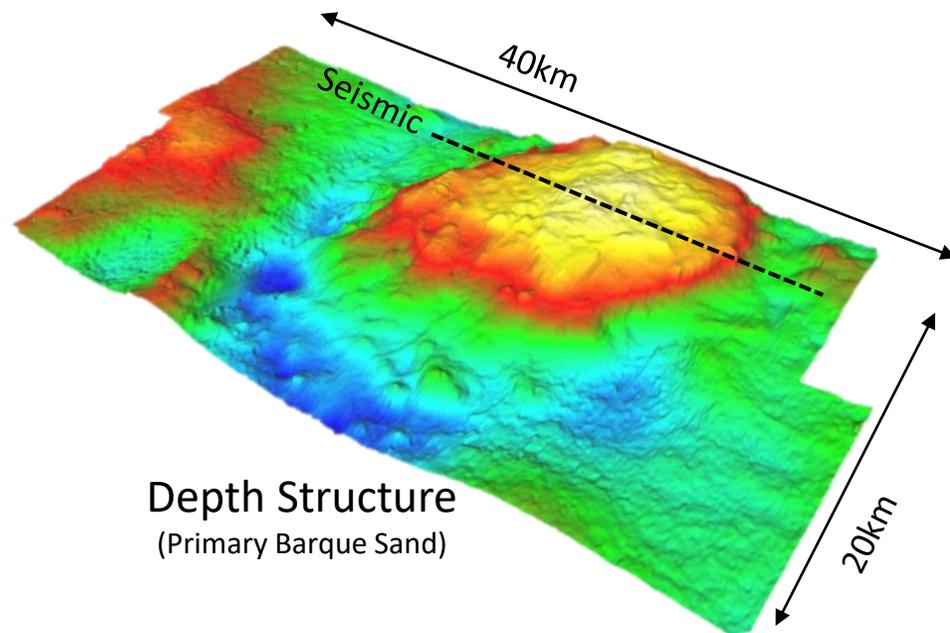
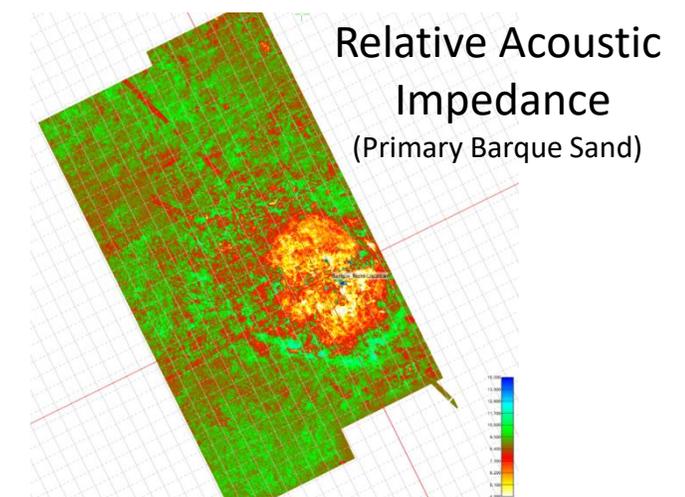
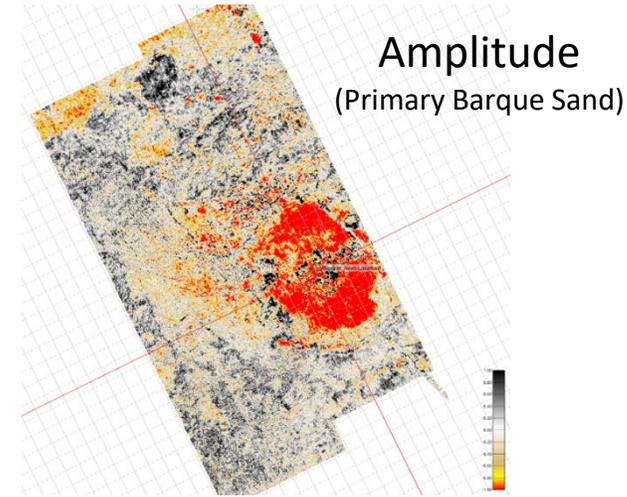
- A proven hydrocarbon system
- Six offshore wells
 - Located within 60km of Galleon-1 which flowed >2,200 bbl liquids and 10 mmcf gas to surface
 - Significant shows/pay in two other well (Clipper-1, Cutter-1)
- Inboard of current exploration by Beach/Discover JV
- Favourable metocean conditions
- Excellent port infrastructure ~100km



Barque: Stacked Play

Four-Way, DHI Supported Trap

- 150 km² four-way depth closure mapped on PSDM 3D seismic
- Structurally conformable DHI supported prospect
- ~800m water depth & ~2,000m bml to test primary target (~2,200m bml all targets)
- High quality primary reservoir



Seismic polarity of the Endurance 3D is SEG normal

Barque volumes

~1.6 billion bbl liquids & 11.2 tcf (mean) over three mapped horizons

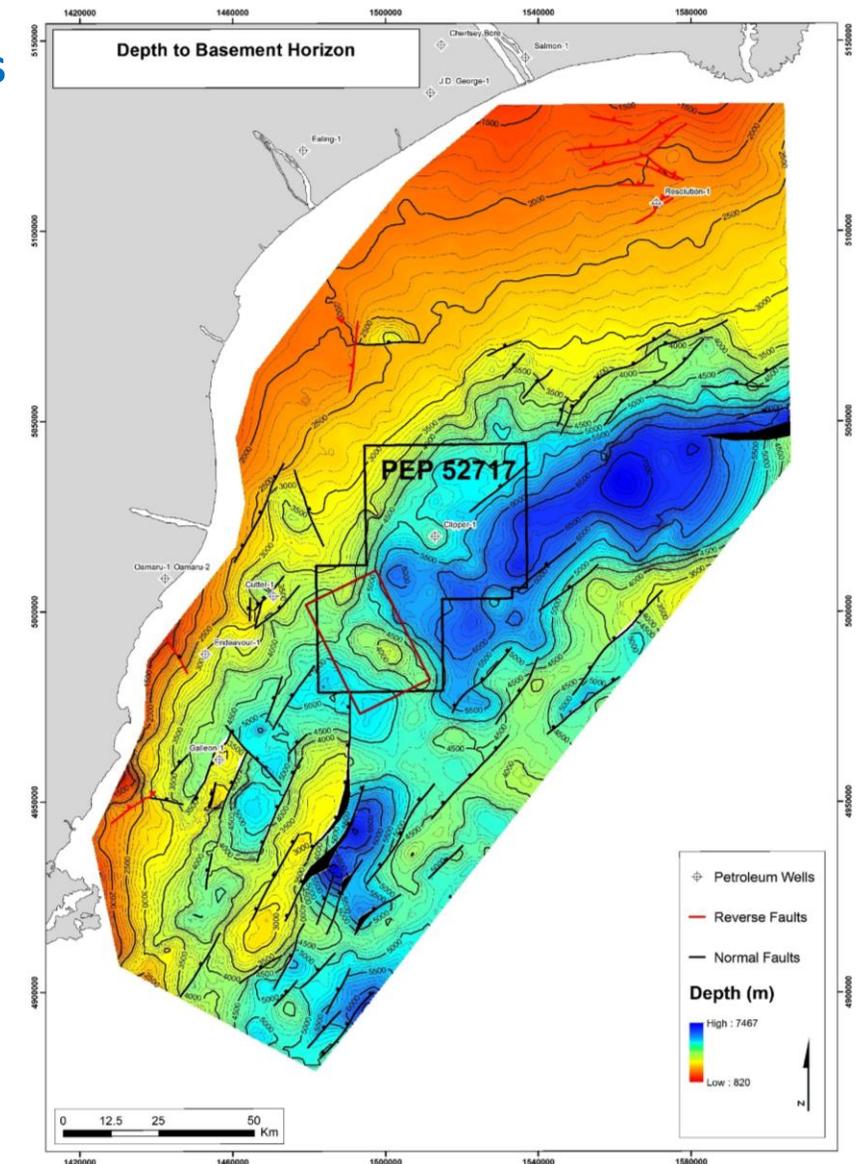
In Place volumes	P90 ⁺	P50 ⁺	Mean ⁺	Condensate*	P10 ⁺
Barque Sand	2,235	4,860	5,529	785	9,978
Intra Paleogene 3	921	1,894	2,142	496	3,786
Herbert Sandstone	727	2,431	3,494	304	7,871
Total			11,165	1,585	

⁺ Gas in place in Bcf *Mean estimated condensate in place in mmbbl

Gas recycling development of the **primary reservoir** yields a mean of **460 mmbbl plus 1.3 tcf of gas**

Material Basin-Opening Commercial Opportunity

- NZOG has documented several commercialisation options
- High liquids ratio (proven by offset well Galleon-1), favours option as:
 - Offshore liquids stripping (Phase 1)
 - Gas blow-down to shore (Phase 2)
- Massive upside running room leads in permit (~18 tcf and 2.4 billion bbl)



Barque: Timeline and Process

Current PEP 52717 Permit Status

	2017		2018		2019		2020	
	H1	H2	H1	H2	H1	H2	H1	H2
PEP52717								

 commit to drill  Drill by

- Low cost entry: seismic reprocessing & inversion commitment remaining (due by April 2019)
- Back-costs to date US\$ 12 million
- Next commitment point
 - Drilling commitment by 10 April 2019
 - Drill by 10 June 2020

Farm Out Process

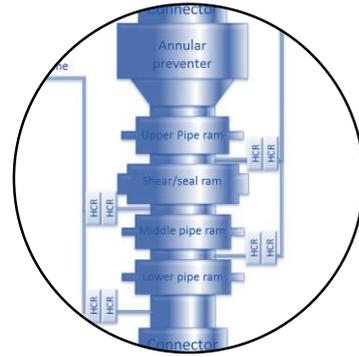
- NZOG is jointly farming out on behalf of entire JV
- At least 50% equity available on negotiable terms
- Operatorship available, if qualified for frontier operations
- Offer in writing by **November 2018**

Great Southern Drilling Rig Club:

Value Drivers



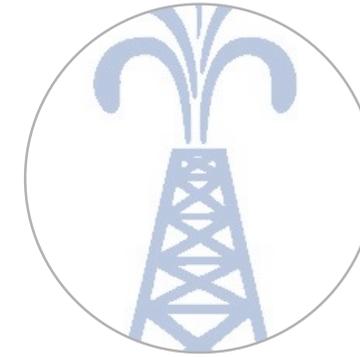
Timetable



Subsurface
Risk



Drill rig
availability
& cost



Gas / liquids
resource
value

Value Drivers: Timetable

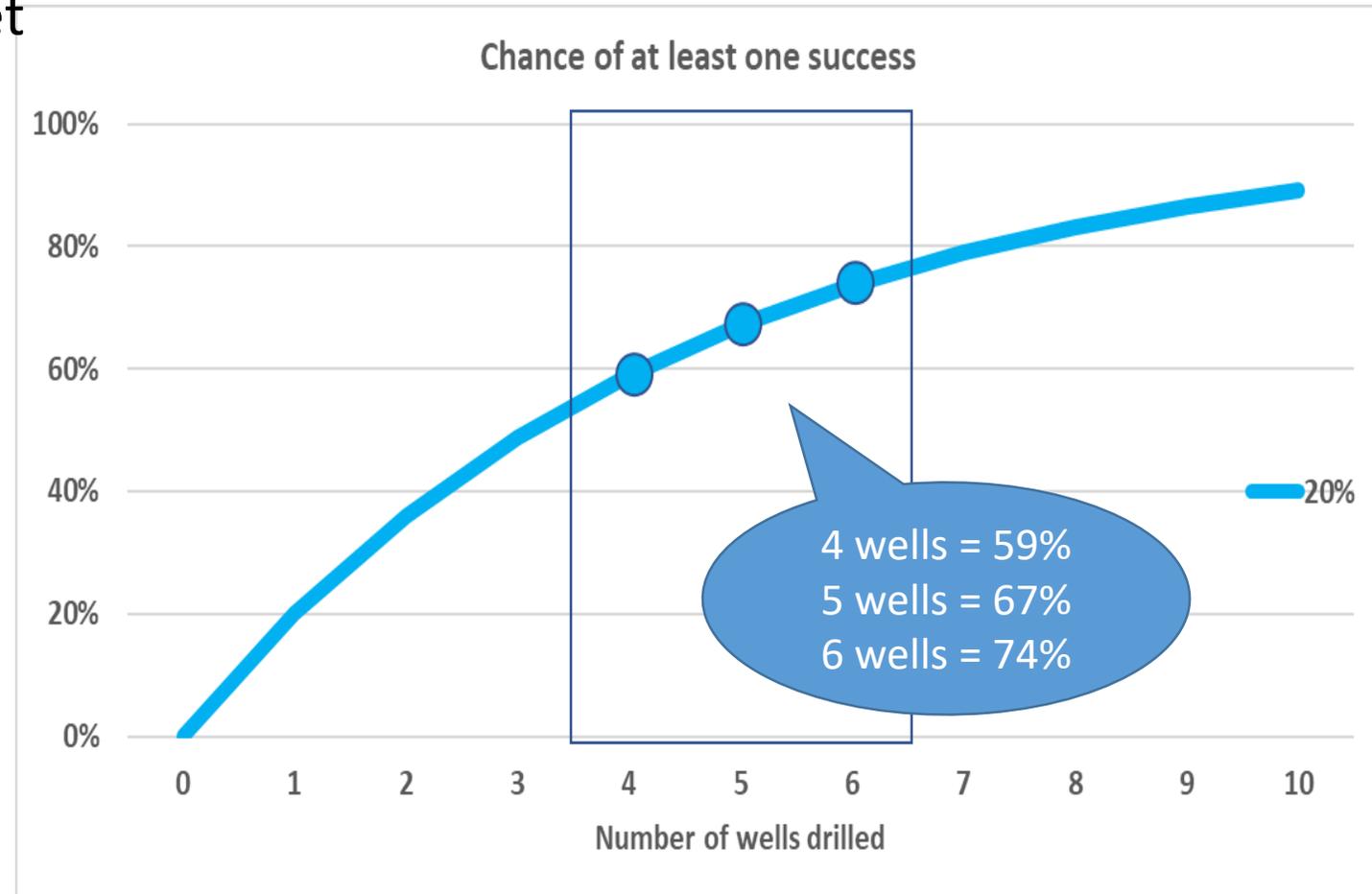
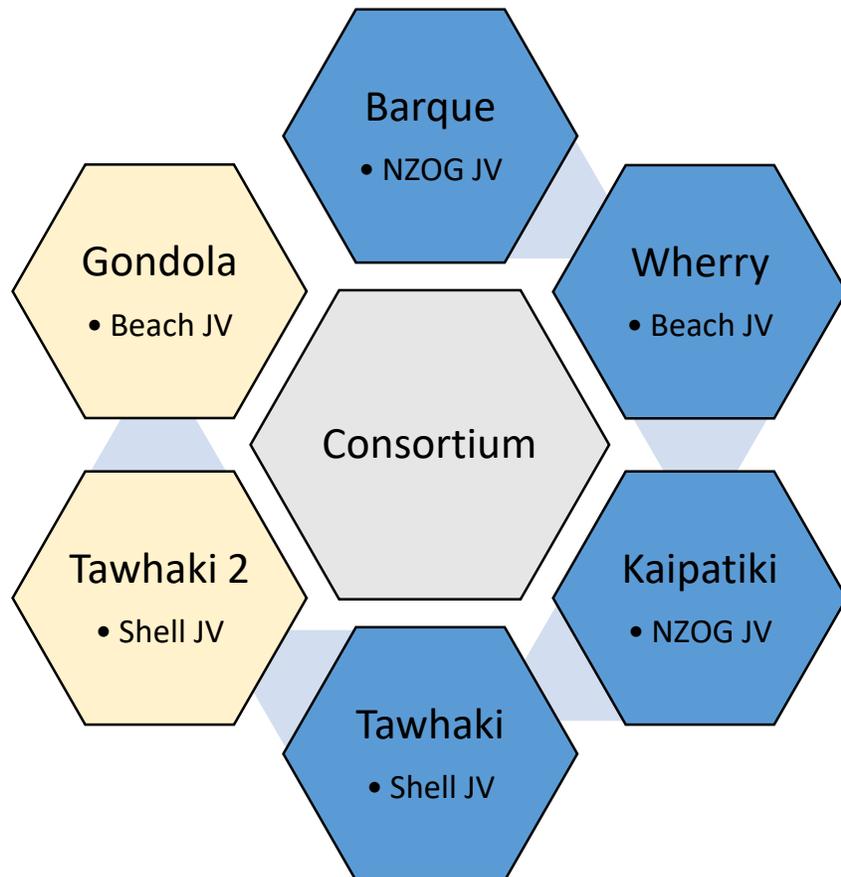
Schedule in context of other wells in New Zealand

	Commit Drill	2017		2018		2019		2020		2021		2022	
		H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2
Canterbury Basin	PEP 52717 NZOG								Contingent				Contingent
	PEP 38264 Beach								Contingent	Contingent		Contingent	
Great South Basin	PEP 55794 NZOG										Contingent		
	PEP 50119 OMV					Committed				Contingent			Contingent
East Coast Basin	PEP 57083 Chevron												Contingent
	PEP 57085 Chevron												Contingent
	PEP 57087 Chevron												Contingent
Taranaki Basin	PMP 38158 Tamarind					Committed							
	PEP 57090 ONGC											Contingent	



Value Drivers: Subsurface risks

- The more you drill, the luckier you get
- Four to six deepwater prospects



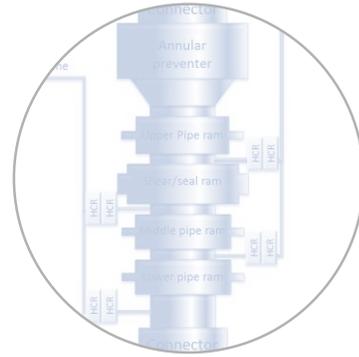
*Assumes no dependency between prospects

Great Southern Drilling Rig Club:

Value Drivers



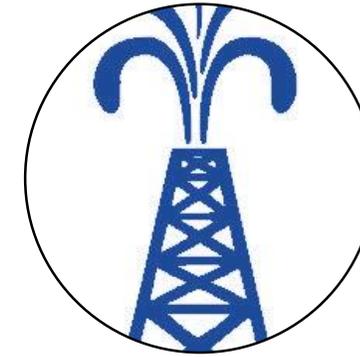
Timetable



Subsurface
Risk



Drill rig
availability
& cost



Gas / liquids
resource
value

Value Drivers: Drilling rig availability & costs

- Three rig tenders out to market in New Zealand (NZOG, Tamarind & Shell)
- Most rigs are capable of drilling for consortia
- NZOG market survey:
 - 13 vessels suitable for the consortium drilling
 - Rig owners including Stena, Diamond and Transocean
 - Many surpass the minimum requirements specified
 - Dynamically positioned and high capacity rigs
 - Very low rates / mob / demob

Estimated (DHC) cost for single Barque well = US\$46 million

Estimated (DHC) cost for consortium Barque well < US\$41 million

Other Synergies

Single team

- Interactions
- Skills depth
- Learning curve
- Hourly savings

Logistics sharing

Weather flexibility

- Flexibility to switch drilling order to account for weather window

Appraisal and development synergies should multiple targets come in

Sharing the rewards for the benefit of all

- All upstream participants to benefit from success
 - Direct economic benefit of participating in hydrocarbon discover; plus
 - Re-rating of the overall exploration prospectivity of the basins
- NZ Govt will see flow through economic benefits of any commercial discovery and enhanced exploration prospectivity
 - Development and production will provide royalties and taxes
- Local population will see GDP growth and jobs from the development of any discovery
 - Any discovery has the potential to support the building of downstream industries
- Upstream suppliers will see enhanced business opportunities

Any gas discovery of size has the potential to underpin development of a local South Island downstream gas market

Example: potential national and regional economic impact

		Regional	National
	Direct expenditure	\$1.4 bn \$3.3 bn	\$2.3bn \$4.4bn
	GDP	\$1.3bn \$2.8bn	\$2.6bn \$4.7bn
	Jobs	13,500 19,000	25,000 31,300

Construction phase NZ\$ (7 years) Ongoing operations NZ\$ (20 years)

Source: offshore development, Barque field development economic impact assessment

S. Island is a Great Place to Explore and Invest

Material prospects with scale

- Drill ready, material basin entry assets to build a business in New Zealand
- GSB: ~750 mmbbl liquids and ~7.3 tcf gas in place (mean)
- Canterbury ~1.5 billion bbl liquids & 11.2 tcf (mean) over three mapped horizons
- Minimal outstanding commitments
- Drilling window of 2020/2021
- High equity participation & operatorship available

Drilling consortium shaping up

- Potential to lock in low drilling rates now
- Opportunity to join with multiple basin partners
- Potential to prove up Greater Canterbury / GSB
- The more you drill the luckier you get
- Attractive opportunity set for potential new entrants

Come talk to us at Booth 73:

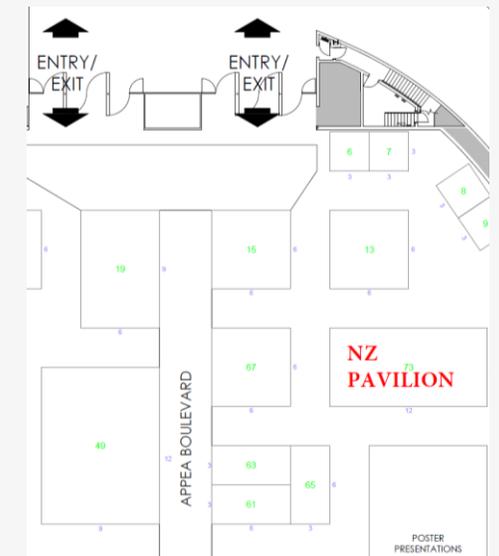
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For the enclosed resources the estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

All volumes presented are based on a best estimate, derived from a probabilistic methodology for resources in place and a deterministic methodology for resources in place and a deterministic methodology for recoverable volumes, which are net of royalties and have not been adjusted for risk.

Oil and gas contingent and prospective resources reported in this statement are as at 28 February 2018 and follow the guidelines set out by Chapter 5 of the ASX listing rules (July 2014) and the PRMS Guidelines (2011). Prospective Resources are those quantities of petroleum which are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations. For the conversion to equivalent units; standard industry factors have been used of 6BCF: 1mmboe and 1 BCF: 1.05 PJ. Summations are performed arithmetically and may not visually add up due to rounding.

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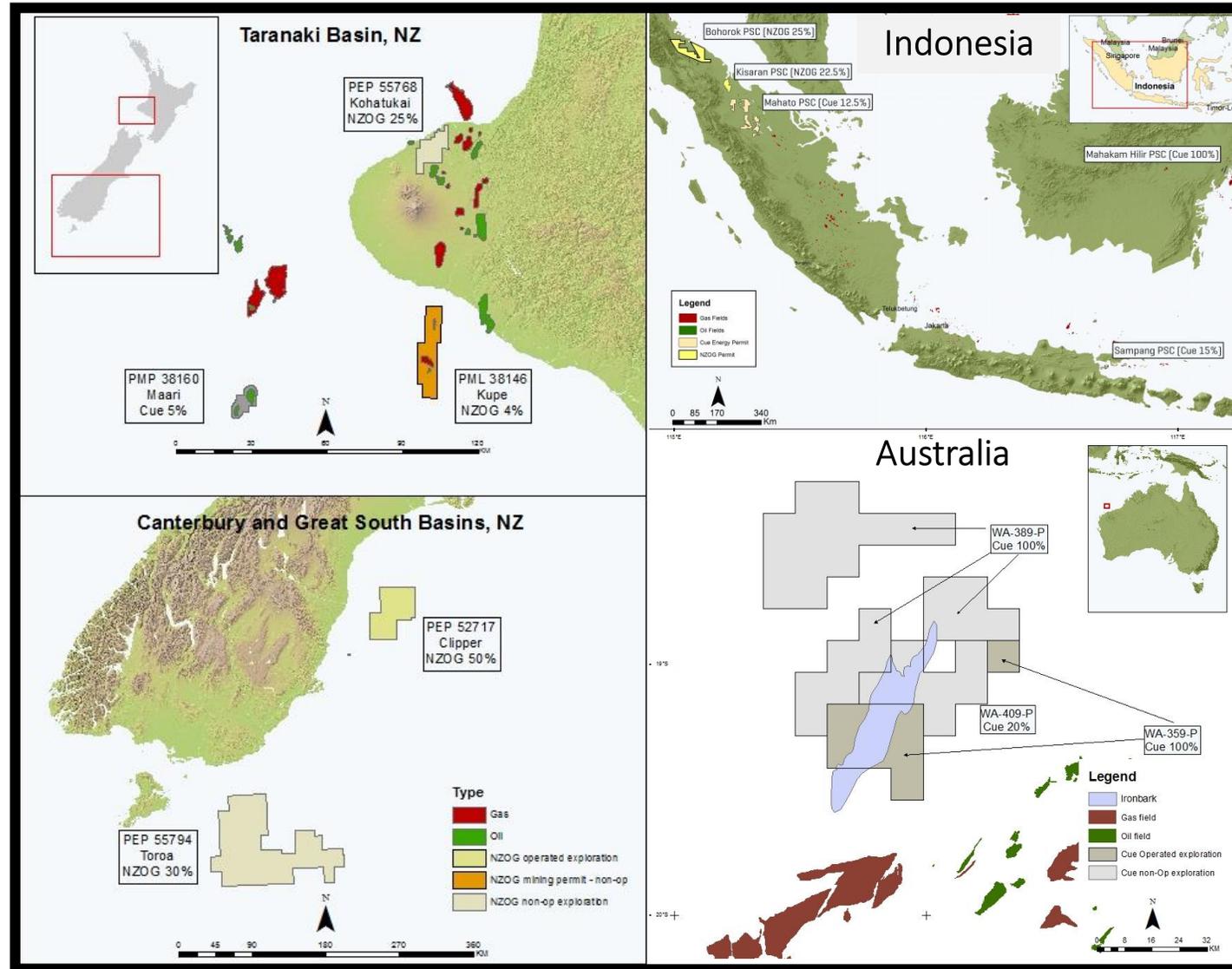
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May 2018

Extra Slides

New Zealand Oil & Gas Ltd (NZOG)

- NZOG is New Zealand's largest listed E&P company and has been operating for over 30 years
- Our New Zealand values position us as the partner of choice for oil and gas investment in New Zealand
- Positioned for growth: 70% of shares acquired by supportive cornerstone investor O.G. Oil & Gas
- Actively screening growth opportunities in the Asia Pacific Region leveraging their expertise in this region
- We have a strong balance sheet and hold a mix of New Zealand and international exploration and production assets
- We have a controlling interest in ASX listed Cue Energy



New Zealand Oil & Gas Profile

Corporate

- NZX Listed E&P company
- Cash: ~NZ\$ 84 million *
- Controlling interest in Cue Energy (ASX:CUE)

Clear Strategy

- Enduring company, established in 1981
- Evolving portfolio
- Multiple pathways to growth

Technical and Operator Capability

- Significant cash holdings
- Supportive cornerstone investor
- Experienced technical/commercial teams
- Partner of choice in E&P activities

* As at 31 January 2017

Operations

Production in New Zealand

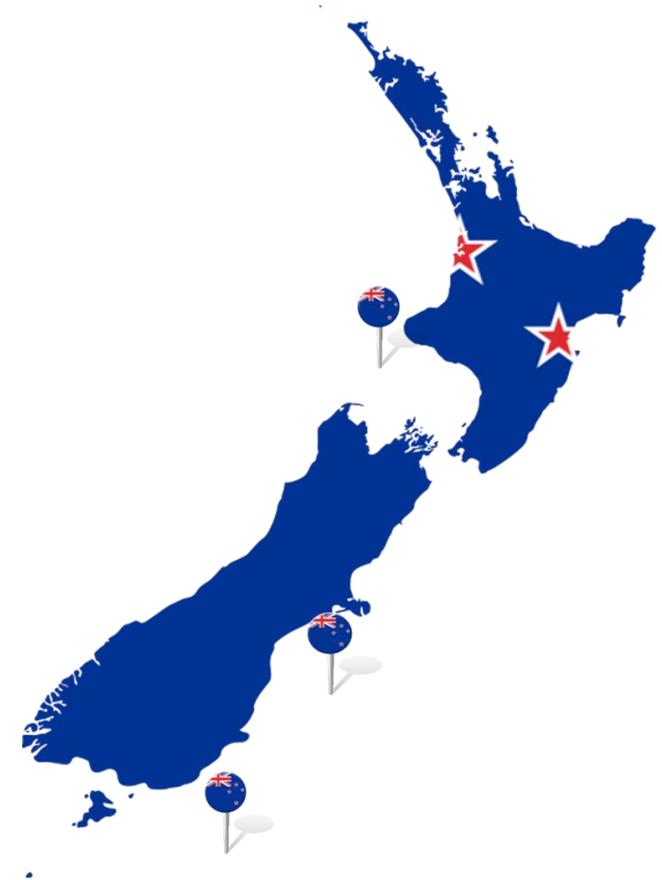
- Offshore Taranaki NZ
- NZOG influential in discoveries
- 5% of Maari oil field (via Cue)

Production and Development in Indonesia

- 15% of Sampang (via Cue)
- Development under review in Sumatra

Exploration in both NZ and Indonesia

- NZ exploration permits with identified drilling targets
- PSCs and exploration opportunities in Indonesia



Strong Relationships with Communities

- Community Panels in the areas we're most active – South Taranaki and South Island
- Panels bring together local business, social services, community leaders, youth, Maori and environmental perspectives
- Keeps the company in touch with what matters locally
- The Panels provide a voice for the community to give feedback to us
- Independently chaired and own websites
- Panels recommend community investment agreed in collaboration with Community Panels e.g. support for Warm Homes

