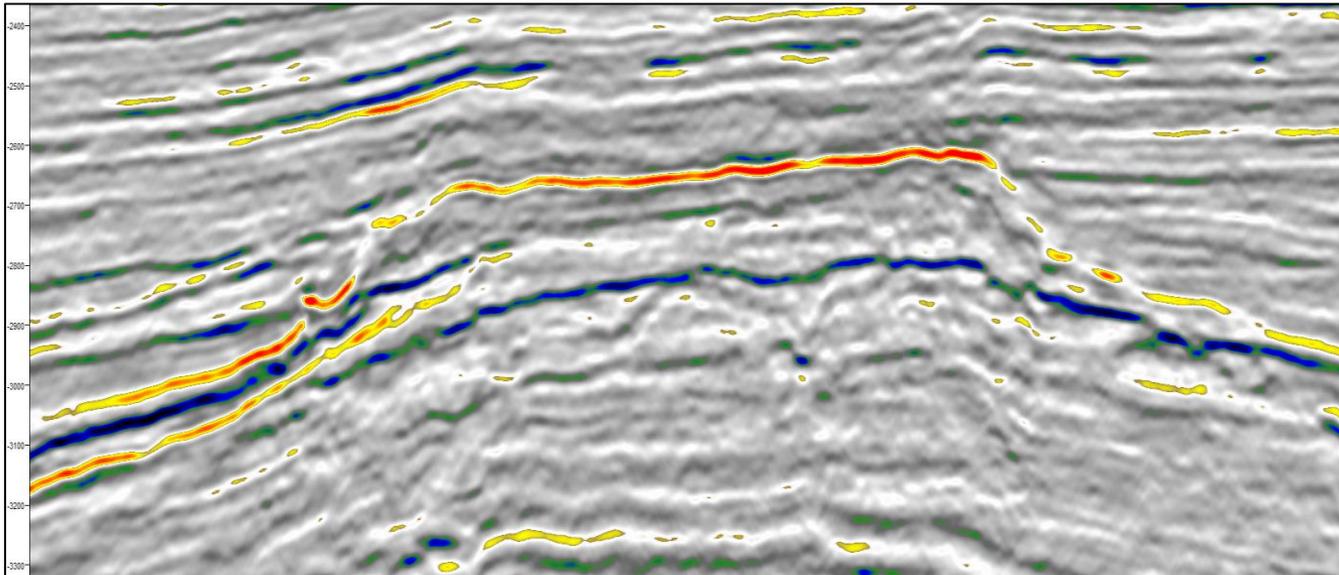


WA-488-P: Beehive Prospect

SEAAOC

 SOUTH EAST ASIA AUSTRALIA
OFFSHORE & ONSHORE CONFERENCE

4 – 5 September 2019



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Contingent and Prospective Resources: Unless otherwise specified, the information that relates to Contingent Resources and Prospective Resources for Melbana is based on, and fairly represents, information and supporting documentation compiled by Mr. Dean Johnstone, who is an employee of the company and has more than 34 years of relevant experience. Mr. Johnstone is a member of the American Association of Petroleum Geologists. Mr. Johnstone consents to the publication of the resource assessments contained herein. The Contingent Resource and Prospective Resource estimates are consistent with the definitions of hydrocarbon resources that appear in the Listing Rules. Conversion factors: 6 Bscf gas equals 1 MMboe; 1 bbl condensate equals 1 boe

Company Overview

Company Data

Listed	1998
Exchange	ASX (“MAY”)
Shares on issue	~1,875 million
Options/Rights	~180/~4 million
Market Cap (30 Aug 19)	~A\$20.6 million
Cash (30 Jun 19)	~A\$3.7 million

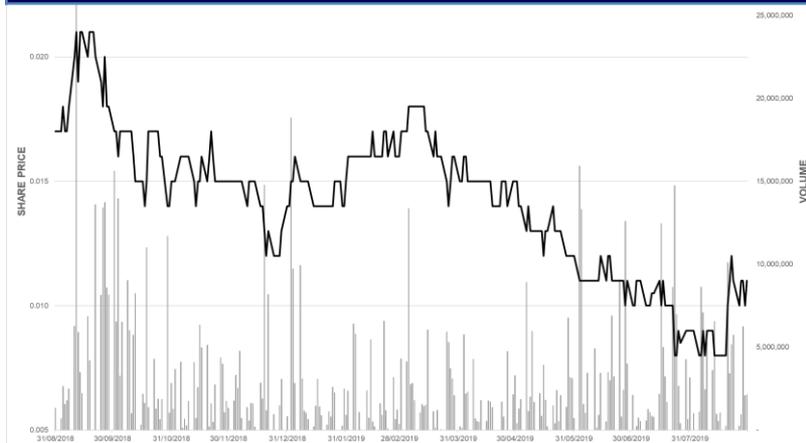
Shareholders

Cadence Capital	~ 7%
Board/Management	~ 5 %
Top 20	~ 28%

Experienced Board and Management

- Decades of international experience in Oil & Gas
- Technical, Financial and Commercial backgrounds
- Extensive fold and thrust belt experience

12 Month Share Price Performance



Board and Management

Board of Directors



Andrew Purcell
Non-Executive
Chairman



Peter Stickland
Non-Executive
Director



Michael Sandy
Non-Executive Director
(Interim CEO)

Senior Team



Errol Johnstone
Chief Geoscientist



Dean Johnstone
Senior Geoscientist



Dr. Rafael Tenreyro
Cuba Representative

Projects Summary

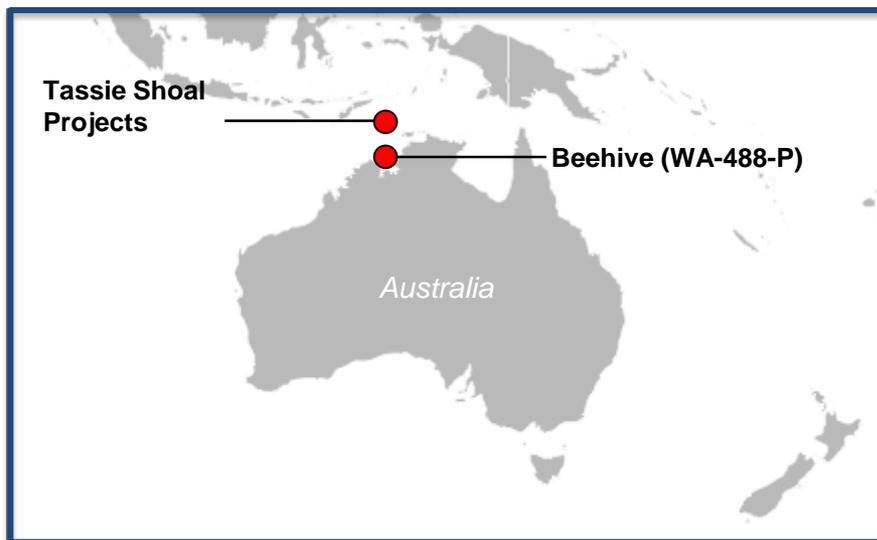


Cuba - Block 9, 100%

- Onshore block in Cuba's northern fold belt trend
- Potential of ~15.7 billion barrels of oil in place¹, recoverable Prospective Resources of 718 million barrels of oil¹

Cuba - Santa Cruz²

- Enhancement of oil production for existing oil field
- Potential future sources of near term production cash flow



Australia - Beehive, 100%³

- Potentially largest undrilled target in Australia
- Beehive Prospective Resource estimated as 388 million barrels of oil equivalent¹
- Total and Santos are partners in 3D Seismic Survey with option to drill well and fund Melbana

Australia - Tassie Shoal Projects, 100%

- Lowest cost development path for discovery undeveloped gas

¹ Best Estimate per Independent Expert McDaniel & Associates Report

² Subject to Cuban regulatory approval

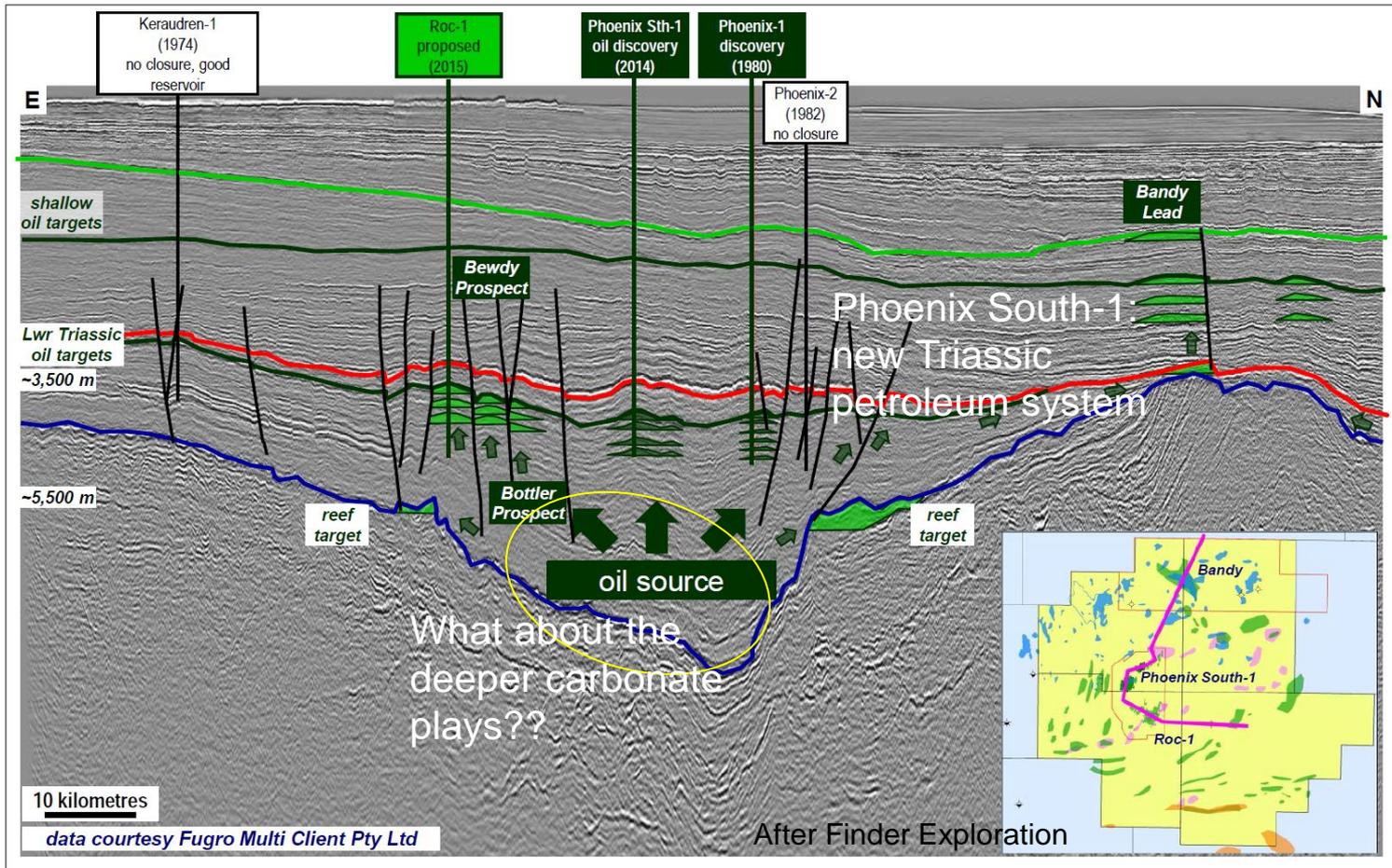
³ Subject to Total and Santos Options for cumulative 80% interest

Agenda

- Overview - How did we get to this point?
- WA488 Current Status – Involved Parties options
- Beehive Prospect Summary
- Previous efforts to improve seismic data
- New Beehive 3D now acquired and processed – data comparisons
- What do we see??
- Next Steps

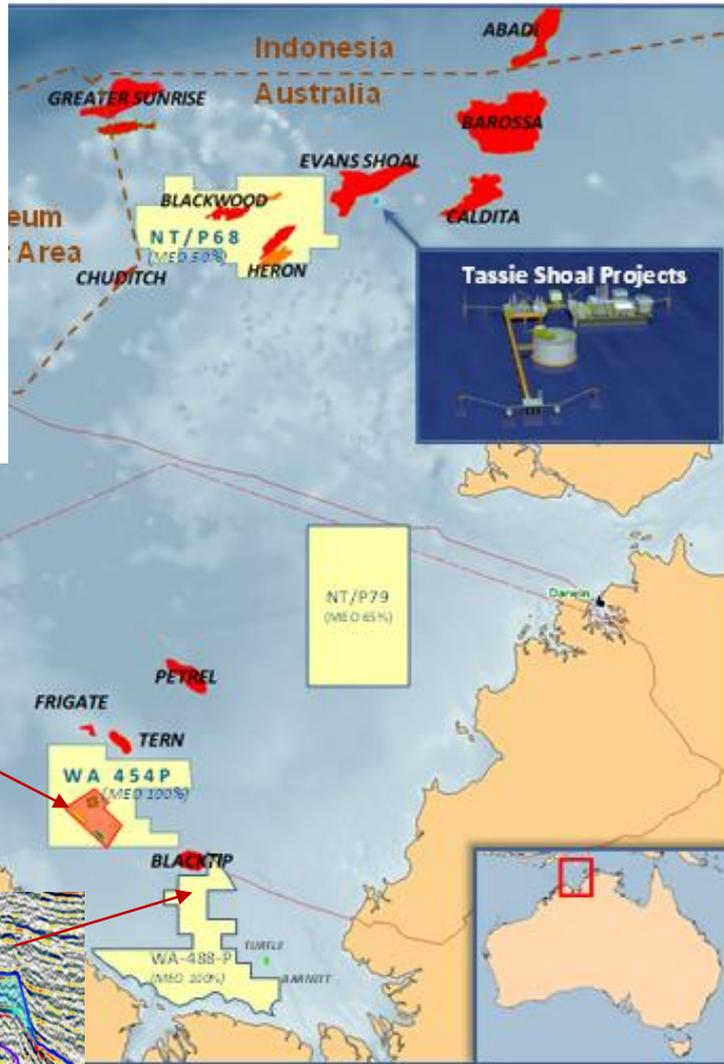
Where to find the next Big Discovery?

- To have another large material success, Australian Industry needs another new Play Concept
- Need to drill deeper - Paleozoic Basin potential?
- Already others have had success drilling deeper at Dorado / Phoenix Sth



Establishing a Position in Prospective Area

- Onshore Canning success at Ungani in Carboniferous carbonates
- Explore for a bigger buildup in these rocks
- Large oil prospect at Beehive – first identified during 2010/2011



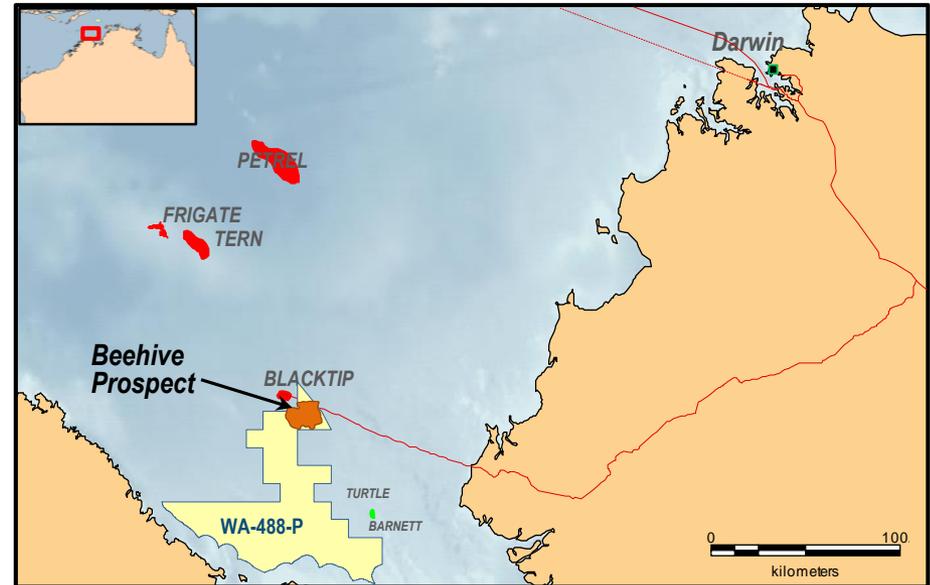
Melbana Tenure map ~2014

- Several of the **largest fields** in the world are hosted in **Carbonates** and associated with **Salt** – where are these elements in Australia? **Paleozoic – Petrel Sub-basin**
- 2010-2011 : Melbana (formerly MEO) had a plan to open up a new play concept to find a major new discovery in Australia
- Plan – to establish an acreage position in this area near established infrastructure at Blacktip
- Applied for gazettal acreage during 2010-2012
- 23 May 2013, Melbana awarded WA-488-P from the 2012 license round

WA-488-P : Beehive Prospect

Seismic Funding/Farmin Option Agreement with Santos and Total

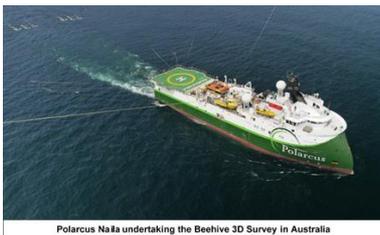
- Largest undrilled oil prospect offshore Australia
- Independent Expert McDaniel & Associates Report assessed 388 MMboe best estimate
- **Total and Santos** fully funded and fast tracked Beehive 3D seismic survey in return for option to acquire 80% interest
- Have until 2 October, 2019 to exercise option which involves fully funding the first well
- Each party can exercise option for 40% interest, with either party having the right to take up to 80% if other party doesn't exercise
- If Total and/or Santos exercise option, Melbana retains 20% and is fully carried through drilling of first well
- Multiple paths to development, with proximal undeveloped resources and infrastructure



Prospective Resources (MMboe, 100%)³

Beehive	CoS*	Low	Best	High	Mean
Carboniferous objective	20%	91	388	1,645	704

Prospective Resources Cautionary Statement - 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. Future exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons. * Chance of Success



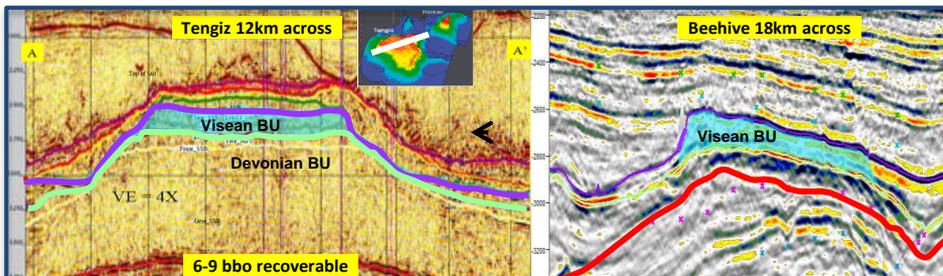
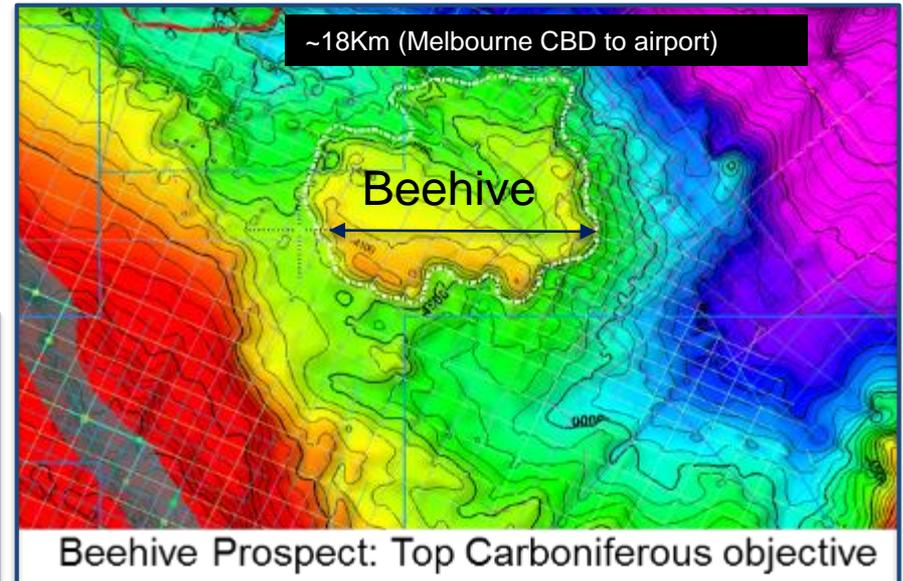
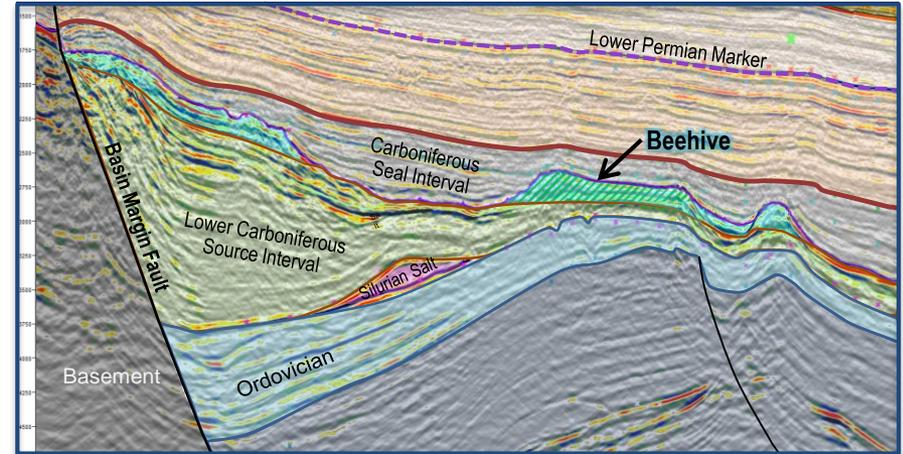
Polarcus Naïa undertaking the Beehive 3D Survey in Australia

³per Independent Expert McDaniel & Associates Report

Australia – Beehive Prospect

Beehive – an enormous feature analogous to giant Tengiz oil field

- Recent deep drilling in the offshore Canning by Santos (Dorado area) has highlighted deep success in new deeper, play ideas
- Beehive – undrilled new play type in Petrel Basin
- Isolated carbonate platform analogous to giant Tengiz oil field in Caspian Sea
 - Carbonate platform is 18km across
 - Mapped closure ~140km²
 - Vertical relief ~400 metres
- Beehive high-graded following discovery of Ungani oil field in similar setting and interpreted as same age
- Target depth ~4500m
- shallow water depth

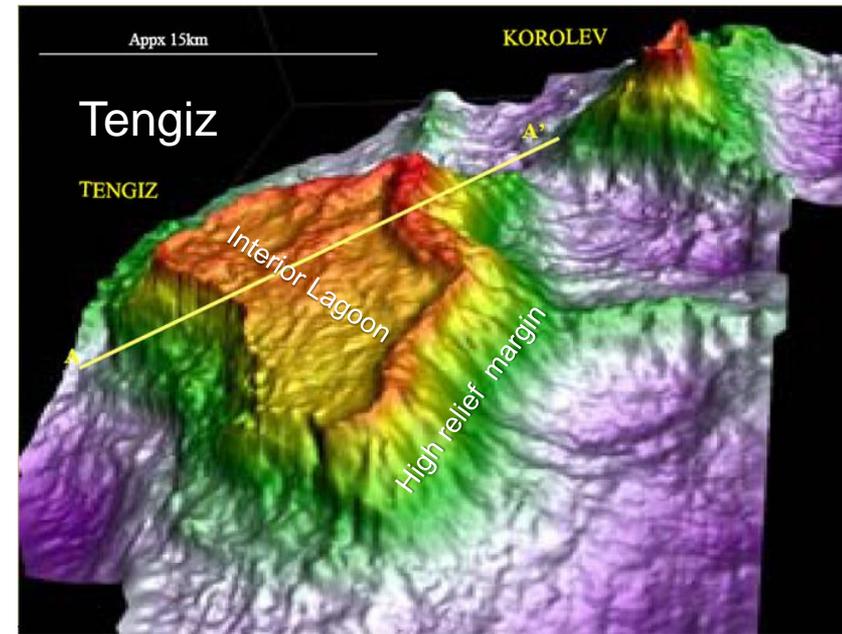
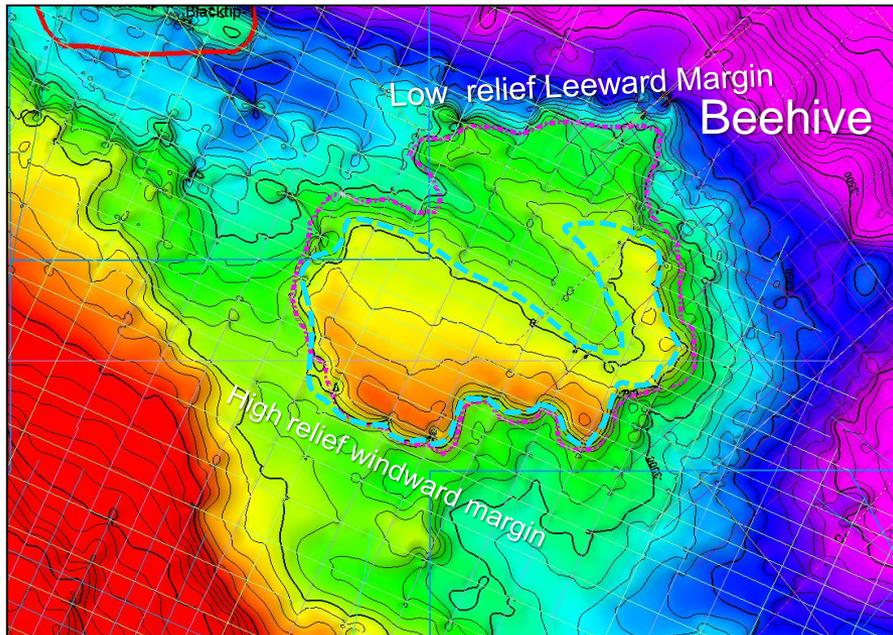
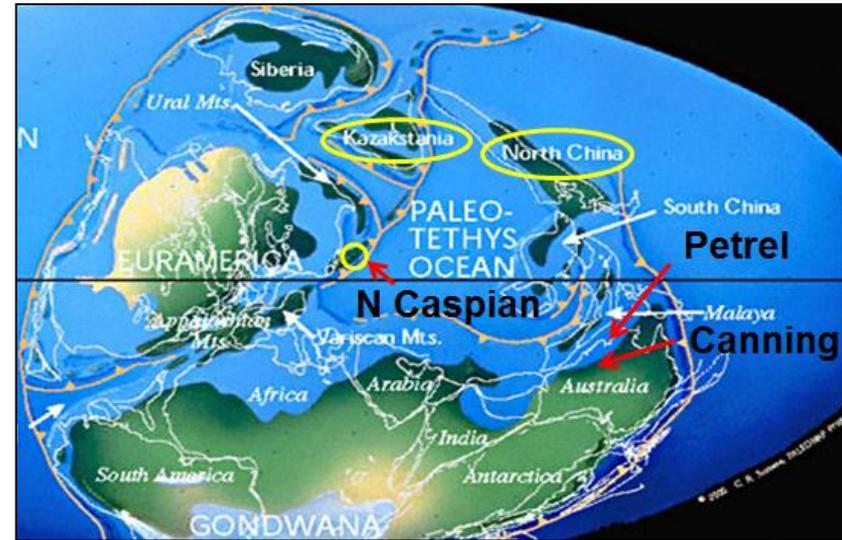


Setting: Isolated Carbonate Platform

Analogy: Tengiz Field

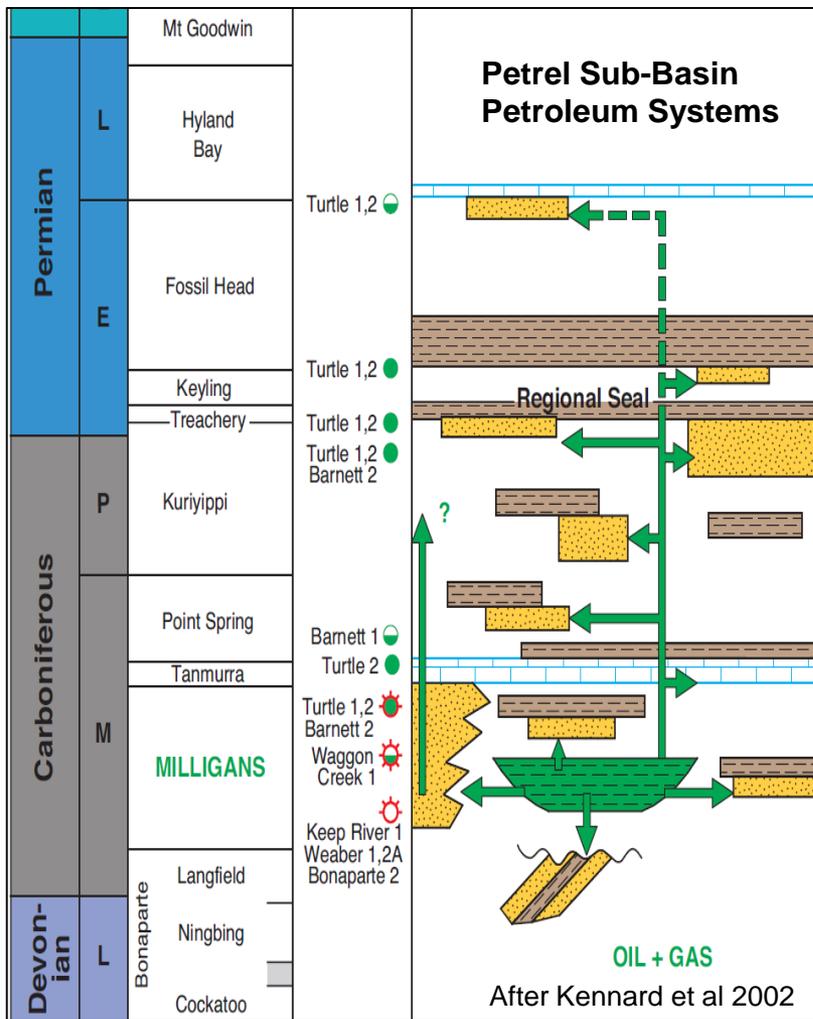
Carboniferous Paleo -Tethys Ocean

- Petrel / Canning basins located on opposite sides of Tethys near same latitude as North Caspian Basin
- North Caspian Basin: Isolated carbonate platforms are the major fields (multi billion barrels)
- Beehive shares morphologic features, age and size with Tengiz (carboniferous, isolated carbonate platform)

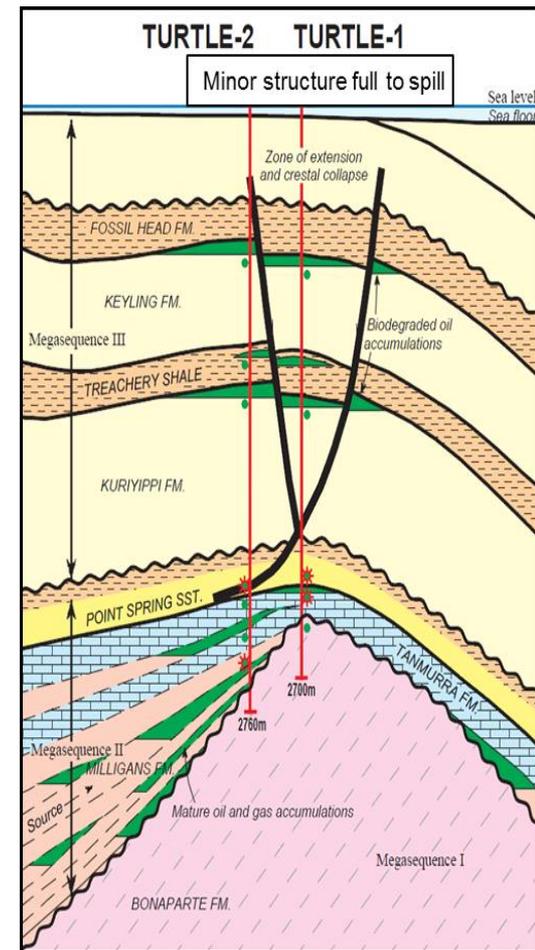


Petrel Sub-Basin Petroleum System

Lower Carboniferous marine algal oil prone source in the **Milligans fm.**

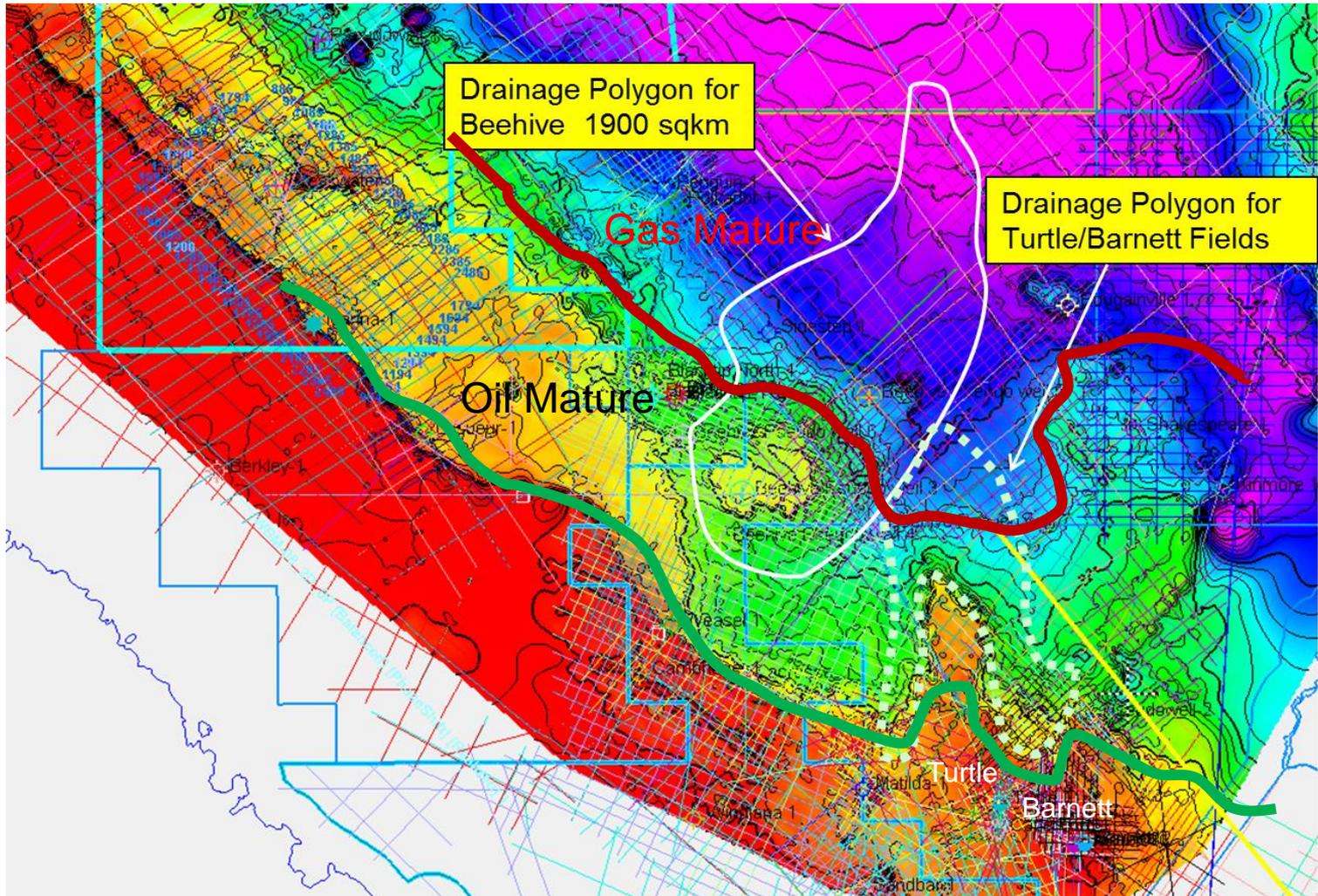


- **Milligans sourced Oil** recovered from **Turtle & Barnett** oil fields
- Limited by small trap size, but filled to spill with high quality oil.
- Isolated recoveries of high TOC (10%) in Milligans equivalent onshore at Waggon Creek and in caprock at Sandpiper Diapir
- Possible secondary source: World wide anoxic event source rocks expected in postulated deeper Ordovician (equivalent to **Goldwyer Fm** in Canning basin)



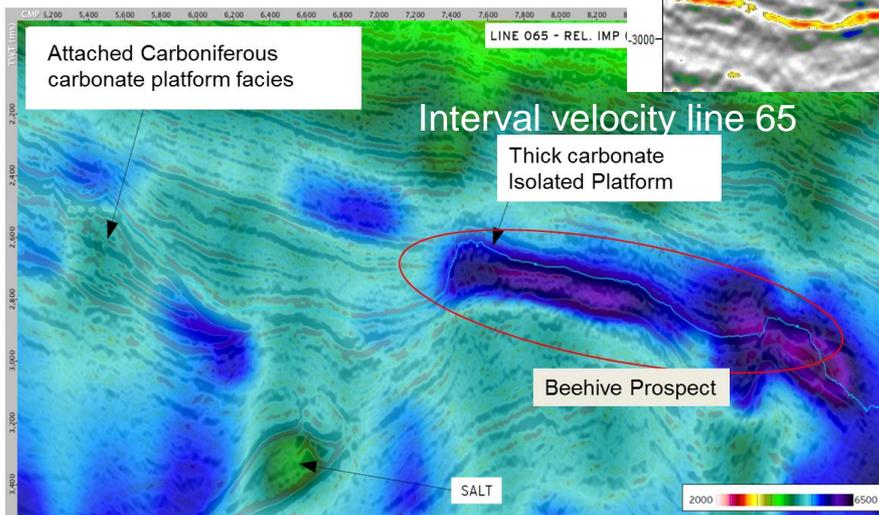
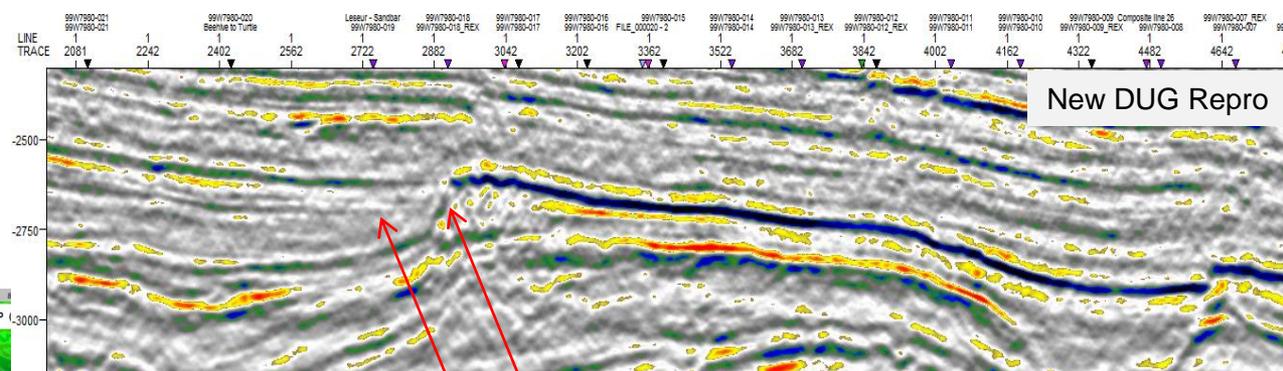
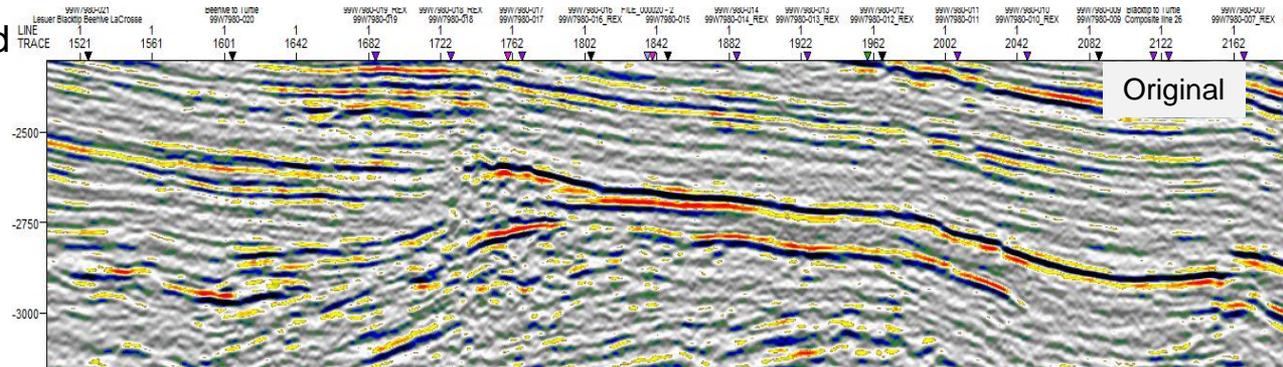
Migration Summary - Large Migration Focus

Triassic to Carboniferous Isochron controls flowlines @ time of migration during Early Triassic

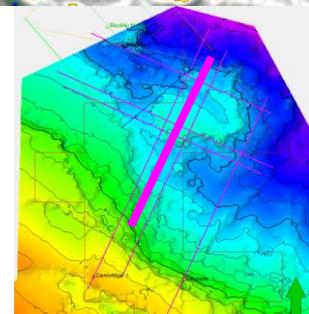


2016 Reprocessing 2D seismic – dramatic uplift !

- 2016 Reprocessing has improved imaging of key components of Beehive better than Melbana expected
- DUG Broad Reprocessing has removed surface related ghost/multiple events
- Interval velocity analyses show high velocity body
- Probable carbonate buildup



Clearer definition of reef margin
 Bland shale seal character clarified



Reprocessed sections provide:

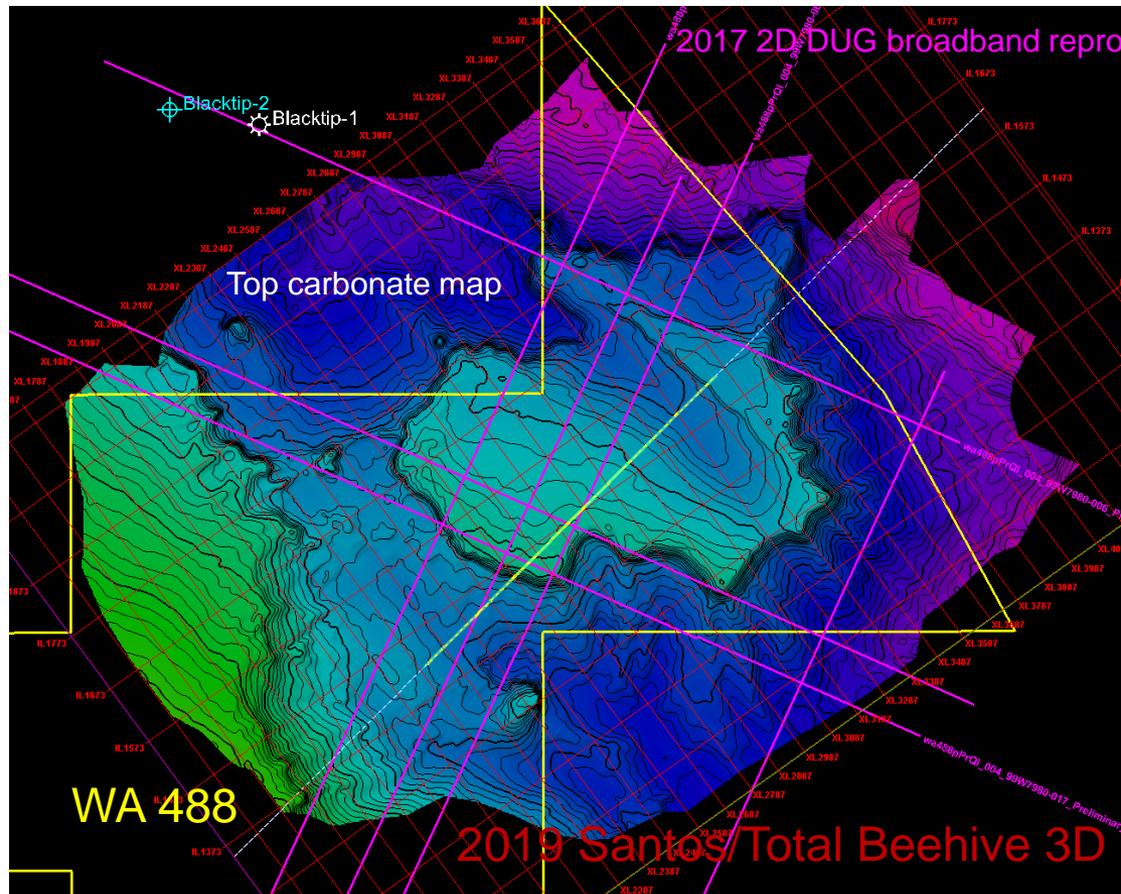
- Better definition of Beehive reef edge and internal carbonate character
- Improved character of shaley lateral seal

New 3D seismic survey acquired in 2018

- Santos/Total acquired approx 700km² 3D data as part of their option (506km² on WA488)
- Drill planning has commenced to allow for a late 2020 well if they elect to exercise their opportunity



- Beehive 3D seismic coverage displayed over the new Top Carbonate interpretation
- Clear isolated carbonate platform geometries visible



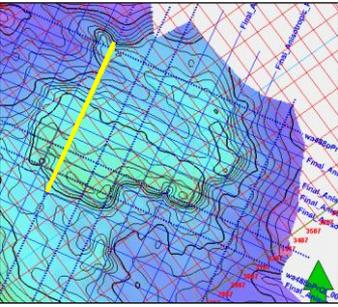
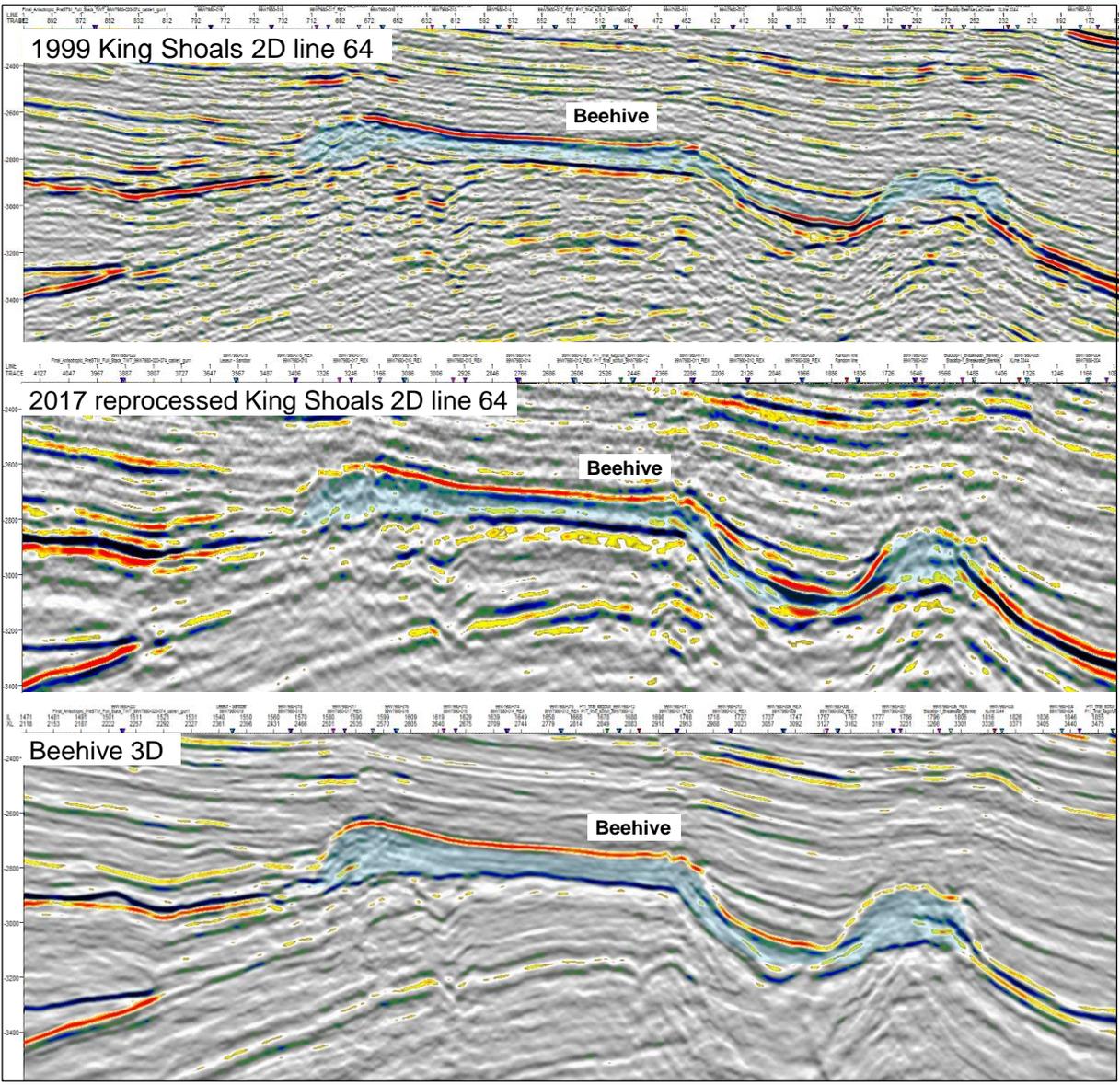
Beehive 3D seismic – Significant Improvement in platform definition



Comparison between 2D data with original processing, DUG Broad Reprocessing and the new Santos/Total 3D seismic data over the King Shoals 1999-line 65 profile

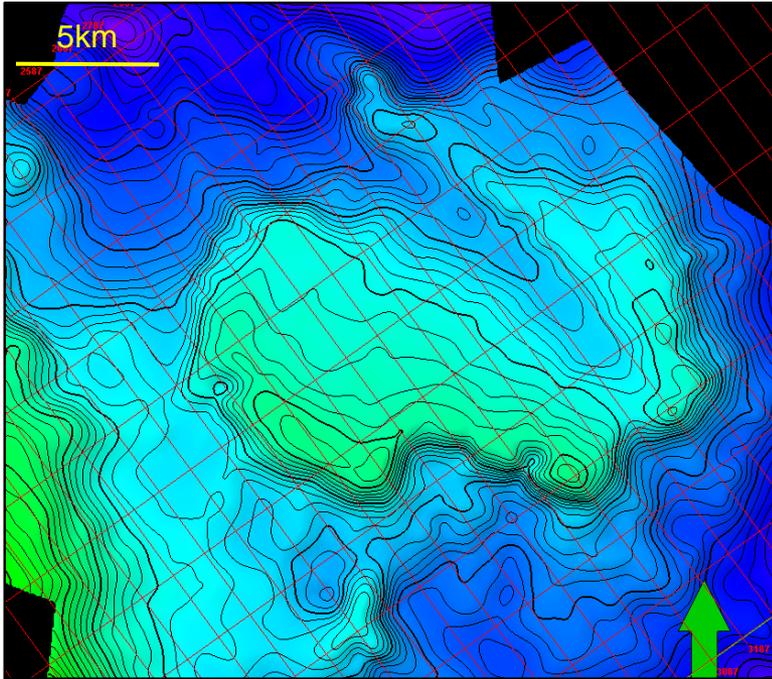
The benefits of 3D migration and modern seismic acquisition techniques have significantly improved the imaging of a number of Beehive's key features:

- 1. The isolated platform's near-vertical edges are now well defined
- 2. Details of Beehive's complex internal architecture are seen for the first time, providing information about facies distribution and depositional history

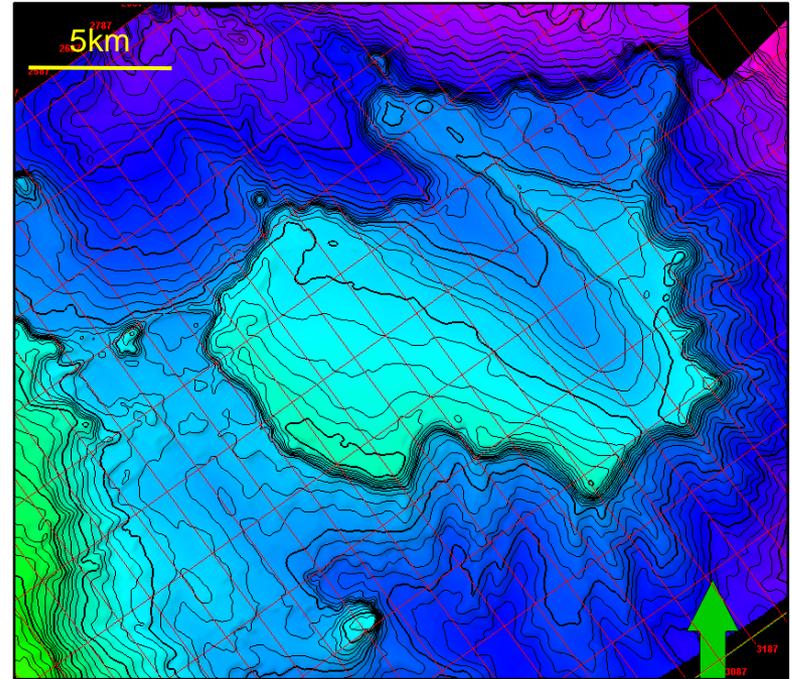


Beehive 3D - Improvement in Top Reservoir Map

2017 reprocessed King Shoals 2D seismic



Beehive 3D seismic



Preliminary interpretation reveals:

- Overall resolution of the Beehive isolated platform has improved with sharper edges providing more confidence in structural closure
- Data quality to the north-east significantly improved allowing better structural definition to the north
- Platform facies distribution (rim vs lagoon vs syncline) better defined

Depositional Facies – internal geometries on old 2D

Aggradational then backstepping: Highstand and Transgressive Intervals

Forereef

Breccias and Grainstones to Wackestones dominate

Seawall

Boundstone and grainstone dominate –often cemented

Backreef-ReefFlat

Patch reefs, Grainstone and Packstones dominate

Lagoonal

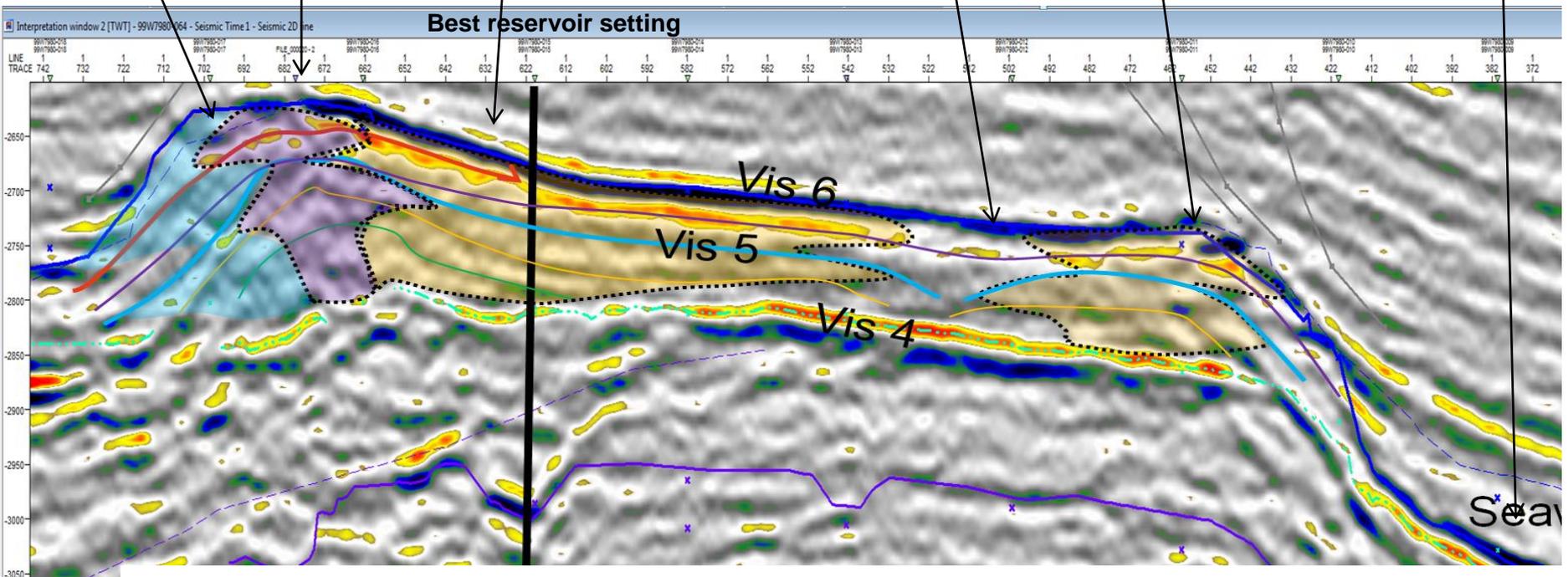
Wackestones dominate

GrainFlats

Grainstone and Packstones dominate

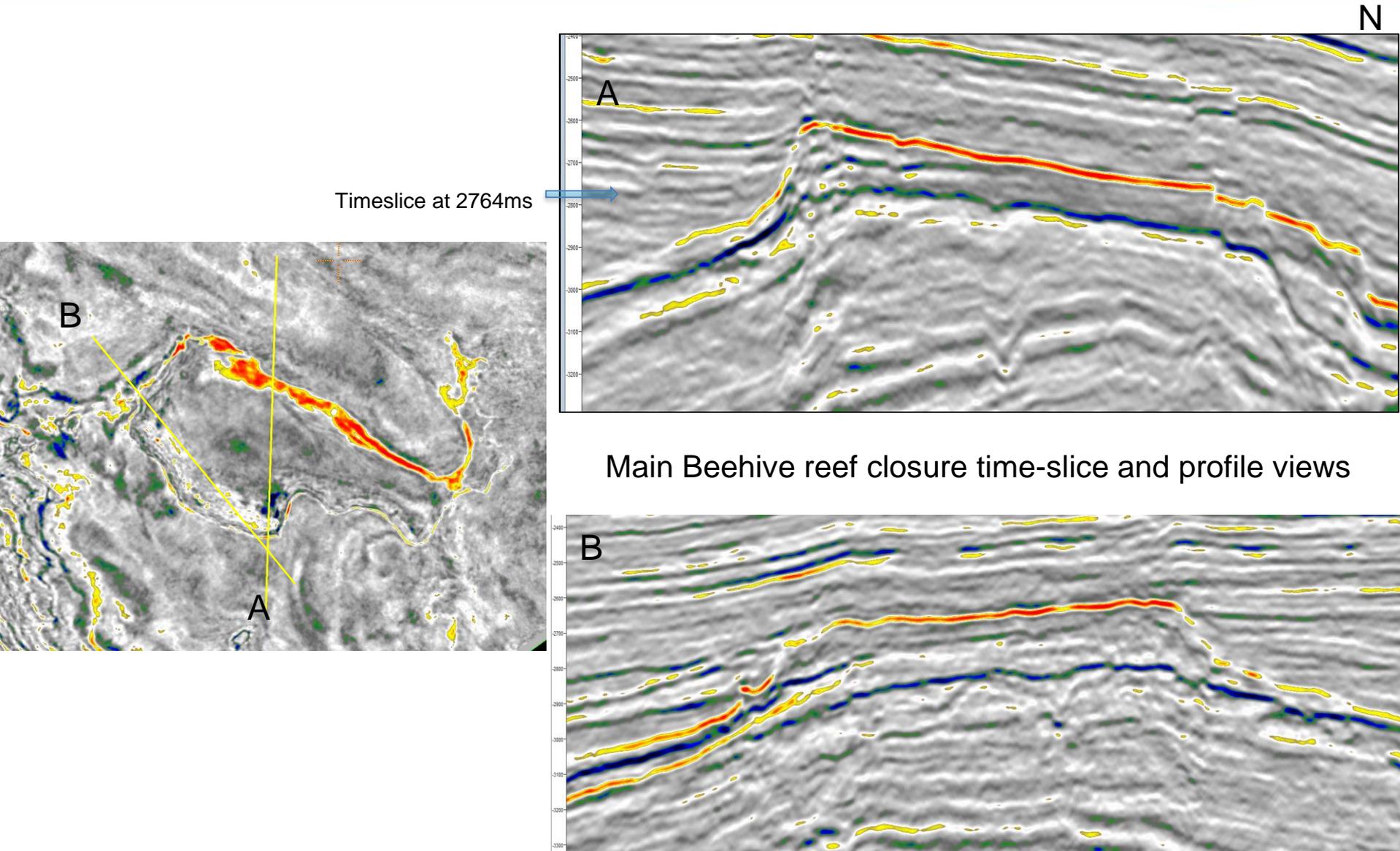
Seaway

Mustone, Micrite and Carbonate debris dominate



An aggradational/backstepping facies system where sediment supply equals or exceeds accommodation - until very late where a strong transgressive backstep develops a small cap

Facies Images on new 3D seismic – work in progress



Next Steps

- Complete the Interpretation of the new Beehive 3D seismic
- Decision by Santos/Total to exercise option by 2 October 2019
- Well Planning is advancing in parallel in order to be prepared for drilling in late 2020
- Potential ground breaking new play discovery with large amount of running room if successful

Melbana offer for Metgasco

1. On 15 July 2019 Melbana Energy announced its intention to offer four of its shares for each share of Metgasco Limited (ASX:MEL)
2. Key conditions include Melbana Energy receiving acceptances for a minimum of 50.1% of Metgasco shares on issue and non-conflicted Melbana Energy shareholders approving the transaction
3. Melbana Energy already has a relevant interest in 19.6% of Metgasco due to a pre-bid agreement it has entered into with an entity associated with Andrew Purcell, a director of Melbana Energy
4. Metgasco is an ASX listed oil and gas company with exploration projects in Queensland and a substantial shareholding in Byron Energy Limited (BYE:ASX)
5. A Bidder's Statement is expected to be released and the offer opened in the coming weeks