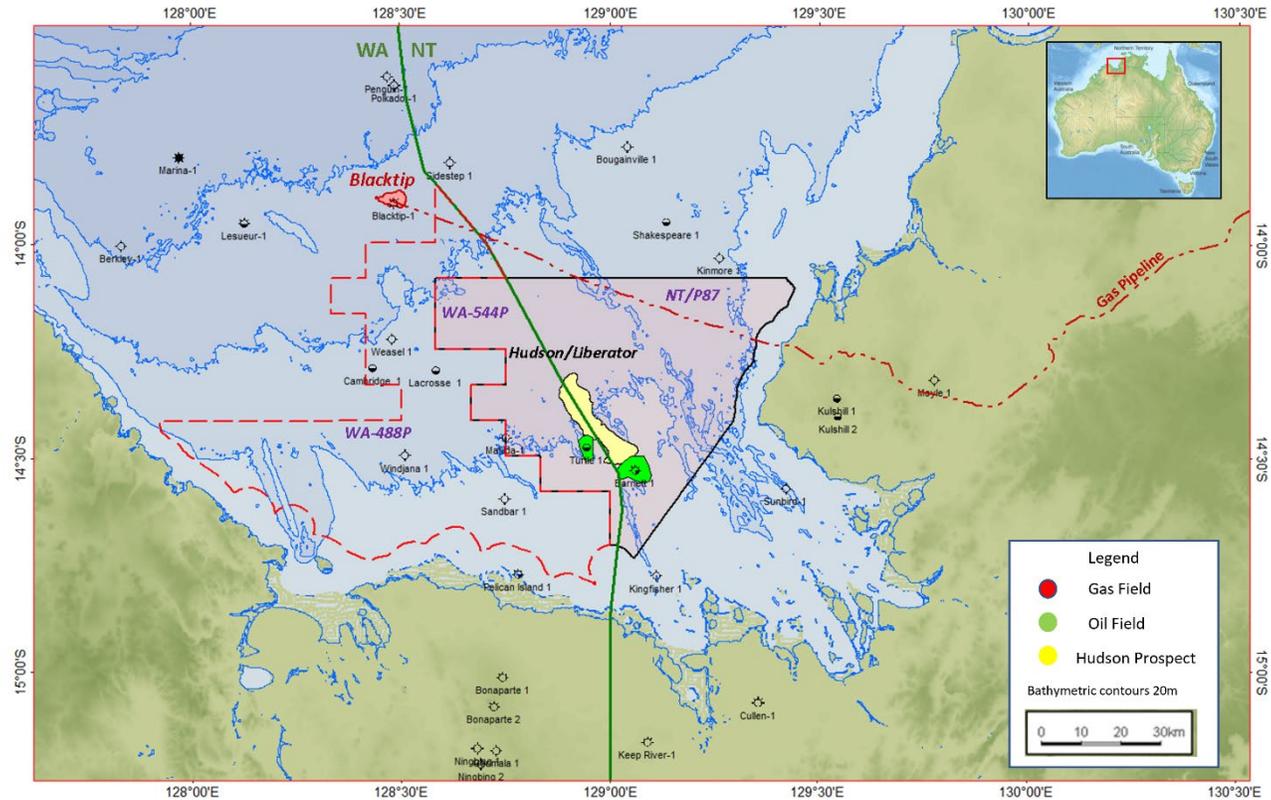


# Project Overview and Resource Assessment

NT/P87 and WA-544-P

Hudson Isolated Carbonate Build-Up

July 2023



# Disclaimer

**Summary of information:** This presentation contains general and background information about Melbana Energy's activities current as at the date of the presentation and should not be considered to be comprehensive or to comprise all the information that an investor should consider when making an investment decision. The information is provided in summary form, and should not be considered to be comprehensive or complete.

**Not financial product advice:** This presentation is not financial product, investment advice or a recommendation to acquire securities and has been prepared without taking into account the objectives, financial situation or needs of individuals. Before making an investment decision investors should consider the appropriateness of the information having regard to their own objectives, financial situation and needs, and seek legal, taxation and financial advice appropriate to their jurisdiction and circumstances.

**Disclaimer:** Melbana Energy and its related bodies corporate and each of their respective directors, agents, officers, employees and advisers expressly disclaim, to the maximum extent permitted by law, all liabilities (however caused, including negligence) in respect of, make no representations regarding, and take no responsibility for, any part of this presentation and make no representation or warranty as to the currency, accuracy, reliability or completeness of any information, statements, opinions, conclusions or representations contained in this presentation. In particular, this presentation does not constitute, and shall not be relied upon as, a promise, representation, warranty or guarantee as to the past, present or the future performance of Melbana Energy.

**Future performance:** This presentation contains certain forward-looking statements and opinion. The forward-looking statements, opinion and estimates provided in this presentation are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward-looking statements, including projections, forecasts and estimates, are provided as a general guide only and should not be relied on as an indication or guarantee of future performance and involve known and unknown risks, uncertainties and other factors, many of which are outside the control of Melbana Energy. Past performance is not necessarily a guide to future performance and no representation or warranty is made as to the likelihood of achievement or reasonableness of any forward looking statements or other forecast.

**Risks:** An investment in Melbana Energy is subject to investment and other known and unknown risks, some of which are beyond the control of Melbana Energy.

**Not an offer:** This presentation is not, and should not be considered as, an offer or an invitation to acquire securities in Melbana Energy or any other financial products and neither this document nor any of its contents will form the basis of any contract or commitment. This presentation is not a prospectus. Offers of securities in Melbana Energy will only be made in places in which, or to persons to whom it would be lawful to make such offers. This presentation must not be disclosed to any other party and does not carry any right of publication. Neither this presentation nor any of its contents may be reproduced or used for any other purpose without the prior written consent of Melbana Energy.

**No Distribution in the US:** This presentation is not an offer of securities for sale in the United States. Any securities to be issued by Melbana Energy have not been and will not be registered under the US Securities Act of 1933, as amended (the "US Securities Act") and may not be offered or sold in the United States absent registration or an exemption from registration under the US Securities Act. No public offer of the securities is being made in the United States and the information contained herein does not constitute an offer of securities for sale in the United States. This presentation is not for distribution directly or indirectly in or into the United States or to US persons.

**Monetary values:** Unless otherwise stated, all dollar values are in Australian dollars (A\$). The information in this presentation remains subject to change without notice.

**No distribution:** Distribution of this presentation may be restricted by law. Persons who come into possession of this presentation should seek advice on and observe any such restrictions. Any failure to comply with such restrictions may constitute a violation of applicable securities laws.

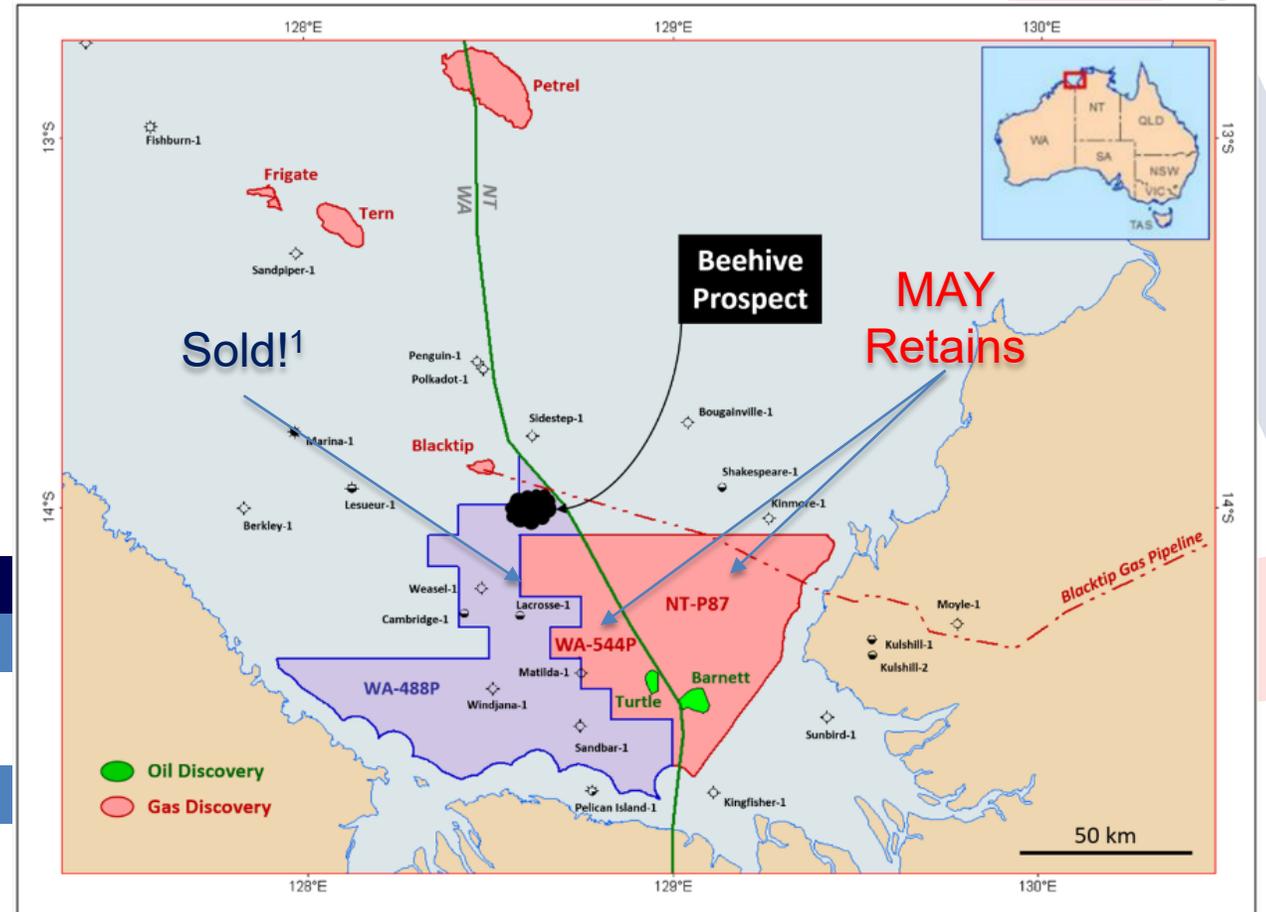
**Contingent and Prospective Resources:** Unless otherwise specified, the information that relates to Contingent Resources and Prospective Resources for Melbana is based on, and fairly represents, information and supporting documentation compiled by Mr. Dean Johnstone, who is an employee of the company 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 ASX Listing Rules. Conversion factors: 6 Bscf gas equals 1 MMboe; 1 bbl condensate equals 1 boe

**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.

# About WA-544-P and NT/P87

1. Melbana awarded Permits WA-544-P and NT/P87 in November 2020
2. Permits cover approximately 3,900km<sup>2</sup> and contain the Turtle and Barnett Oil Fields
3. Located offshore about 300km to the southwest of Darwin
4. Adjacent to the Beehive Project (WA-488-P)<sup>1</sup>
5. Melbana technical analysis estimates gross Prospective Resources of:

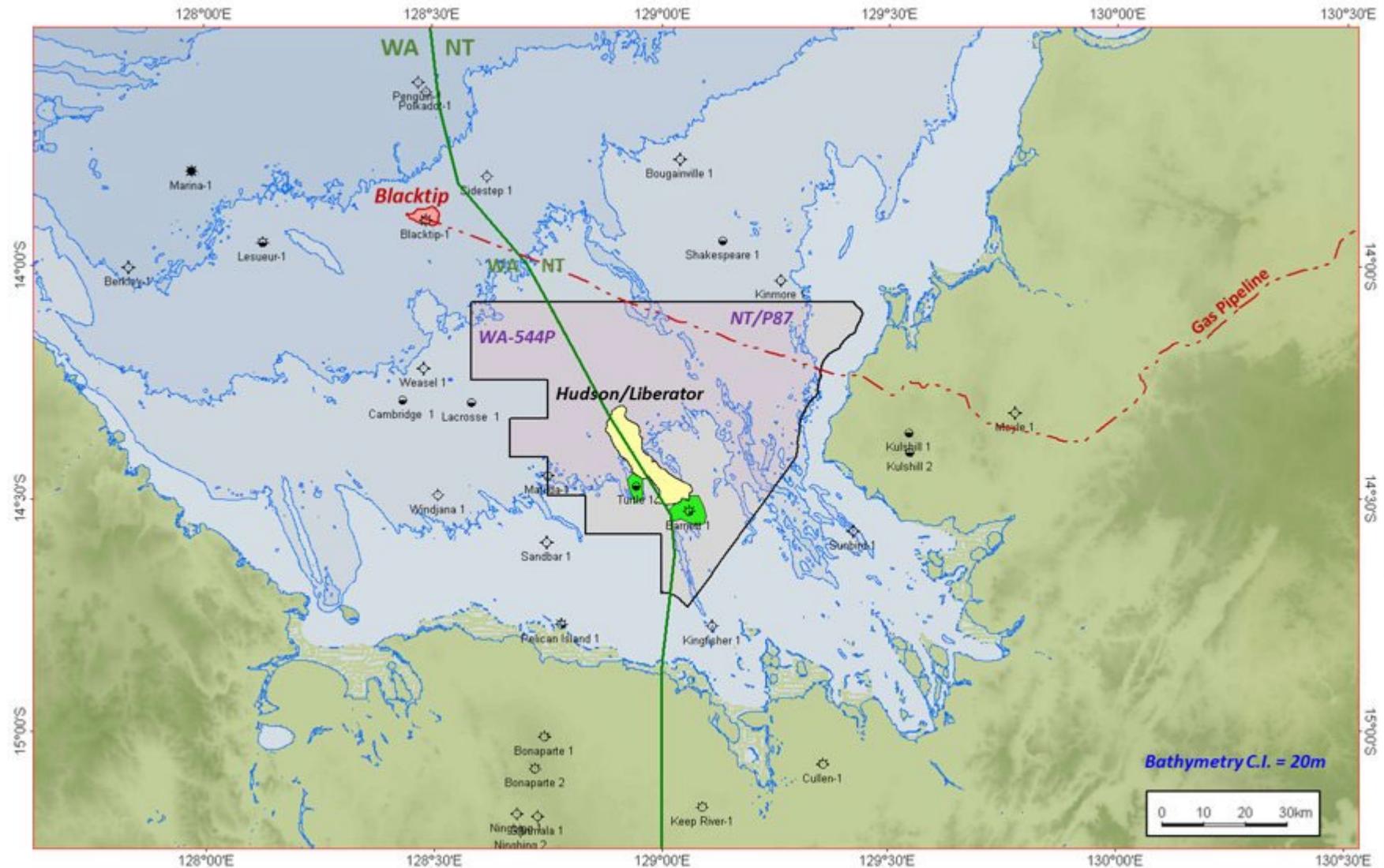
Gross Prospective Resources <sup>2</sup>				
Oil Only (mmboe)	P90	P50	Mean	P10
STOOIP	9	371	<b>1,573</b>	4,845
Recoverable	2	90	<b>395</b>	1,184
Gas Only (bcf)	P90	P50	Mean	P10
GIIF	16	700	<b>3,070</b>	10,097
Recoverable	11	466	<b>2,034</b>	6,741



1. Melbana sold WA-488-P, containing the Beehive prospect, to a US oil major in late 2021. Drilling expected in mid 2024.
2. Cautionary Statement: Volumes here are a best estimate. The estimated quantities of petroleum that may be potentially by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a 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 recoverable hydrocarbons. This best estimate may be a very optimistic estimate due the portfolio effects of arithmetical summation.

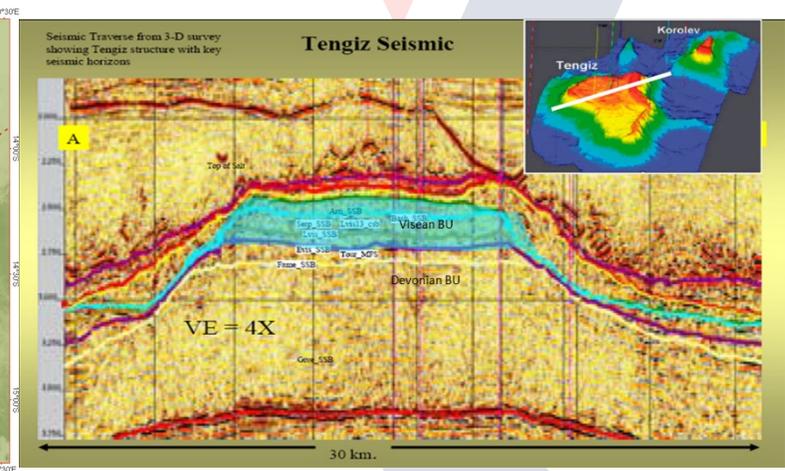
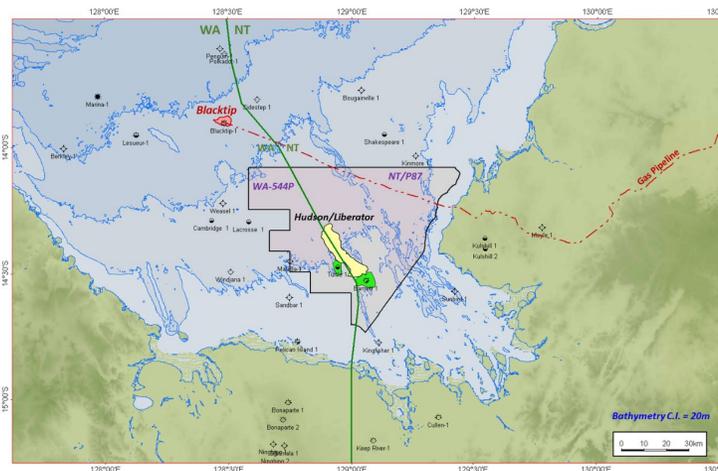
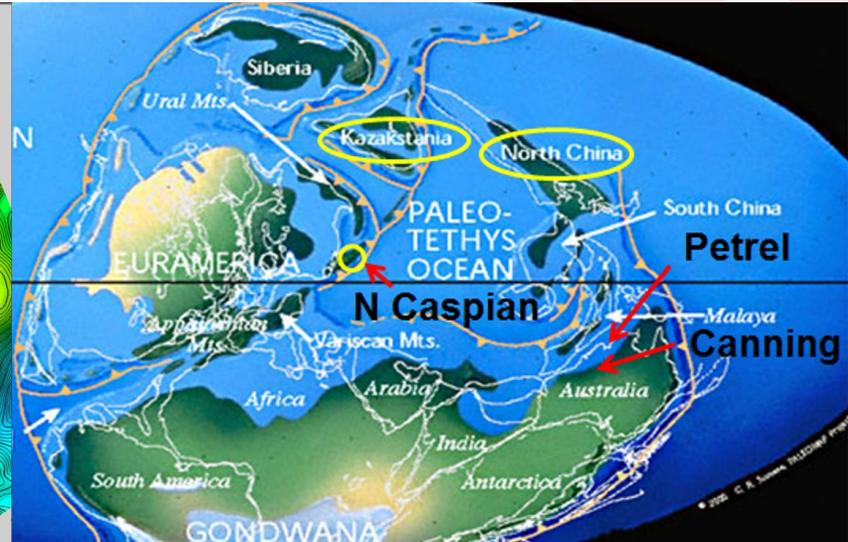
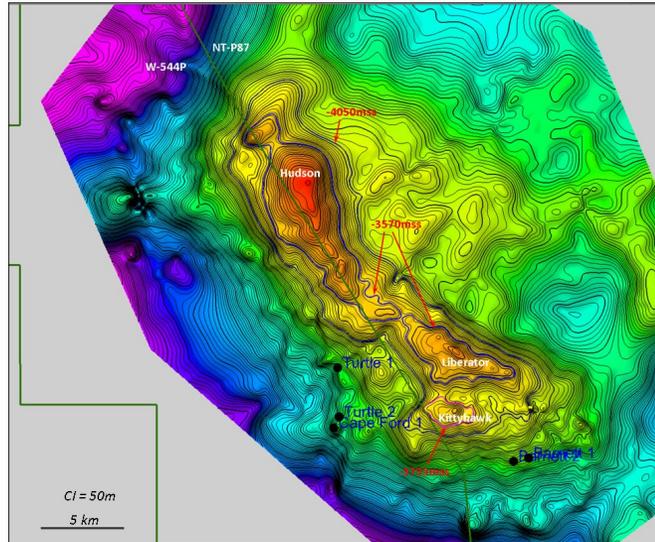
# Location

1. Both licences located within the Petrel sub-Basin in the Joseph Bonaparte Gulf
2. Adjacent to WA-488-P (Beehive) sold in 2021
3. Licences include the oil discoveries made at Turtle and Barnett
4. Blacktip gas field and pipeline is to the north of the licences allowing potential access to Darwin LNG facility or east coast domestic gas market
5. Water depths in the licence areas are 20 – 40 metres allowing the use of jackup drilling facilities



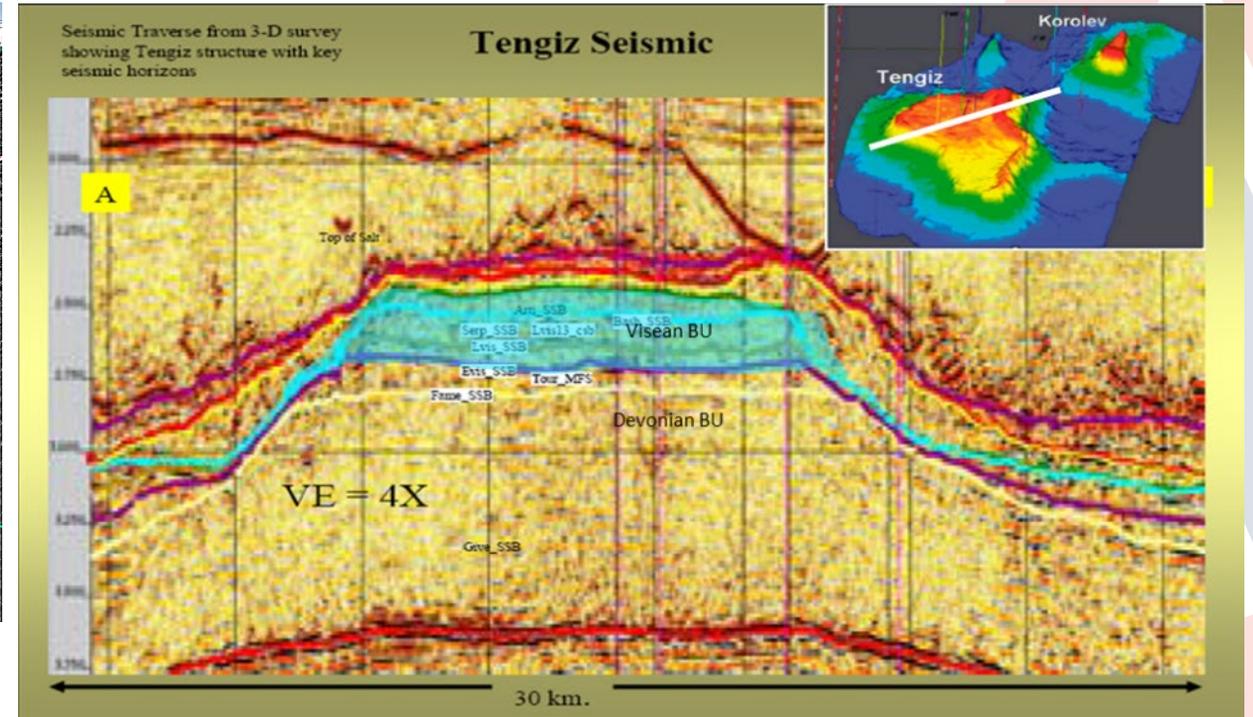
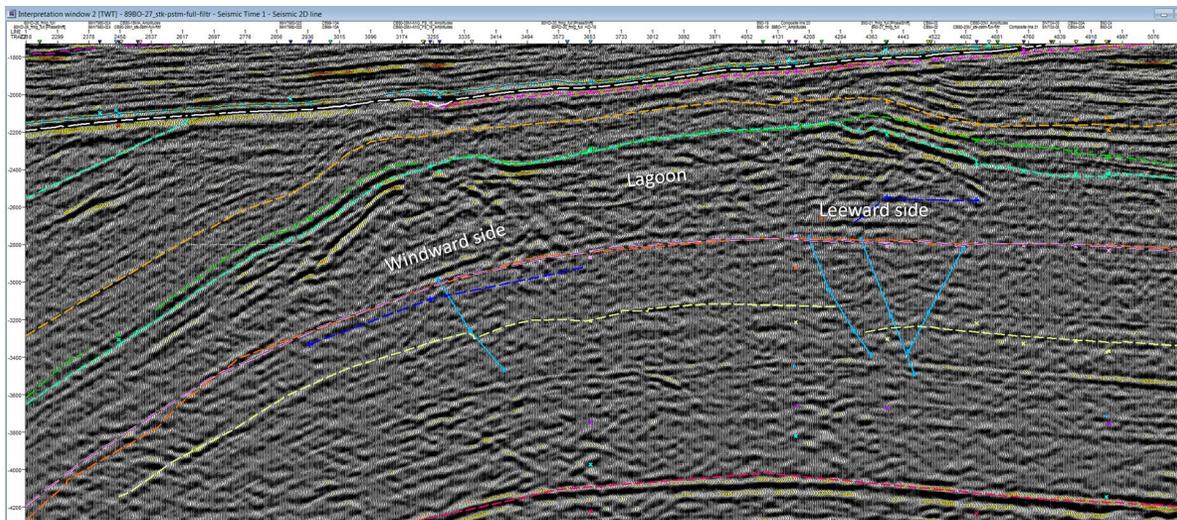
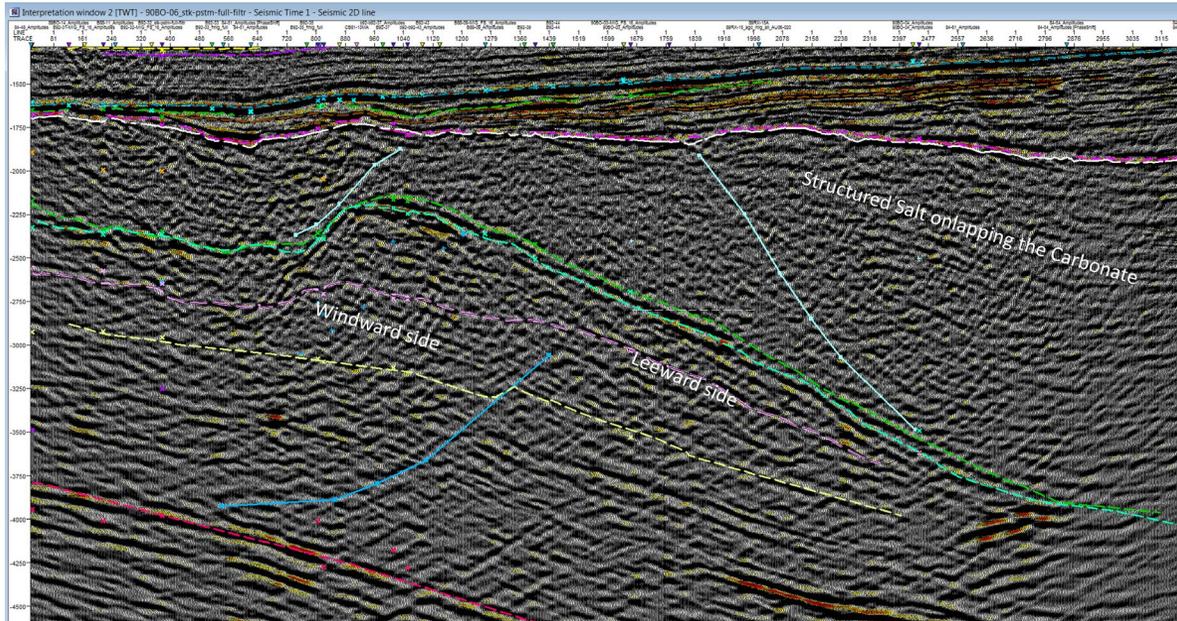
# The Hudson Platform – An Isolated Devonian Carbonate Platform

1. Melbana's technical team has identified a new concept within the Hudson Platform.
2. Early Paleozoic Carbonate platforms with salt seals - responsible for some of the largest oil provinces in the world.
3. Analogues are seen in the Amadeus/Canning Basins and, by extension, the deeper Petrel Basin.
4. Some success has been achieved on this play type in Canning Basin exploration (Ungani oil and Raphael gas discoveries).
5. Vintage 2D seismic data in Petrel has many interesting anomalies consistent with these play concepts.
6. New 3D at Beehive in WA-488-P provided a huge uplift in defining play elements and carbonate platform margins more clearly.
7. Melbana seeking to Farmout.
8. Melbana believes this may identify large Devonian Carbonate objectives and even larger, deeper. Ordovician possibilities



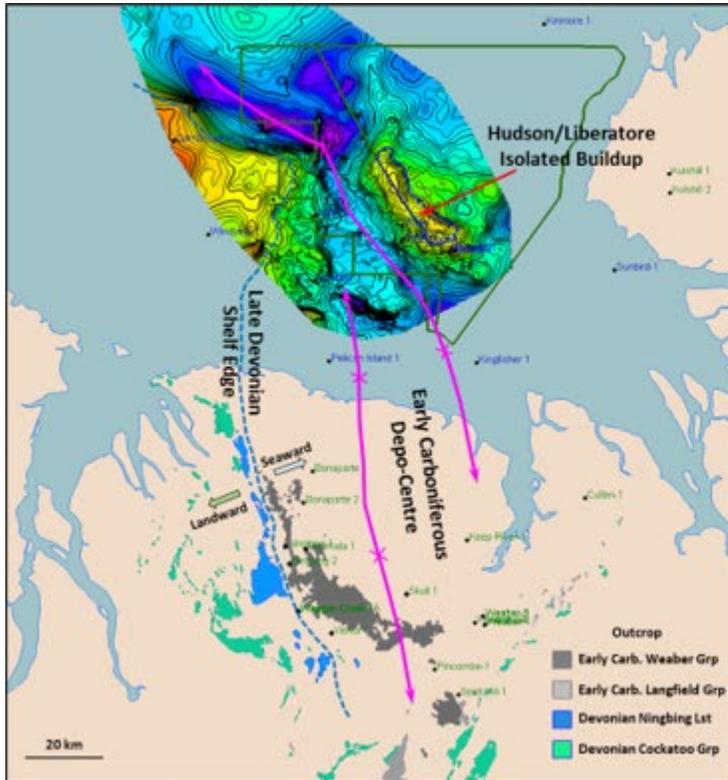
Seismic line over the Tengiz oil field, Kazakhstan, the sixth largest oil field in the world with 25 Bbbls OOIP and between 6-9 mmbbls recoverable. Tengiz is hosted in an isolated carbonate build-up sealed by evaporites.

# Devonian Isolated Carbonate Platform – Tengiz Analogue



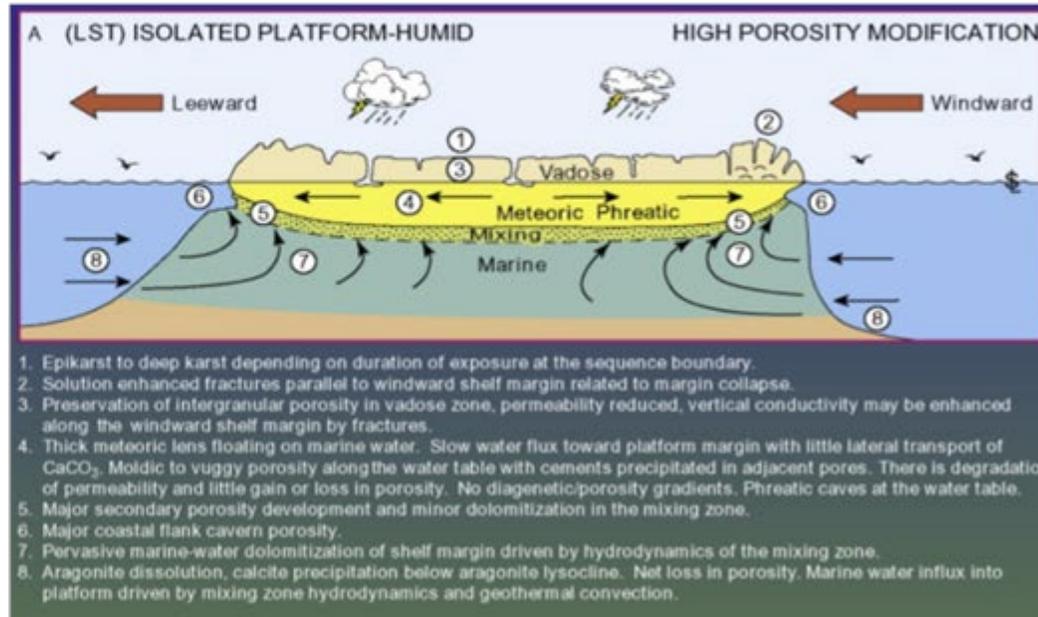
1. Seismic line over the Tengiz oil field Kazakhstan, the sixth largest oil field in the world with 25 Bbbls OOIP and between 6-9 Bbbls recoverable.
2. Tengiz is hosted in an isolated carbonate build-up sealed by evaporites.
3. Seismic lines over the Hudson platform demonstrating similarities to the geological setting of Tengiz with the development of carbonate platform overlain by evaporites.
4. Initial depth conversion indicates top of the structure at ~3500m at Hudson.

# Hudson – Evidence for Isolated Build-up



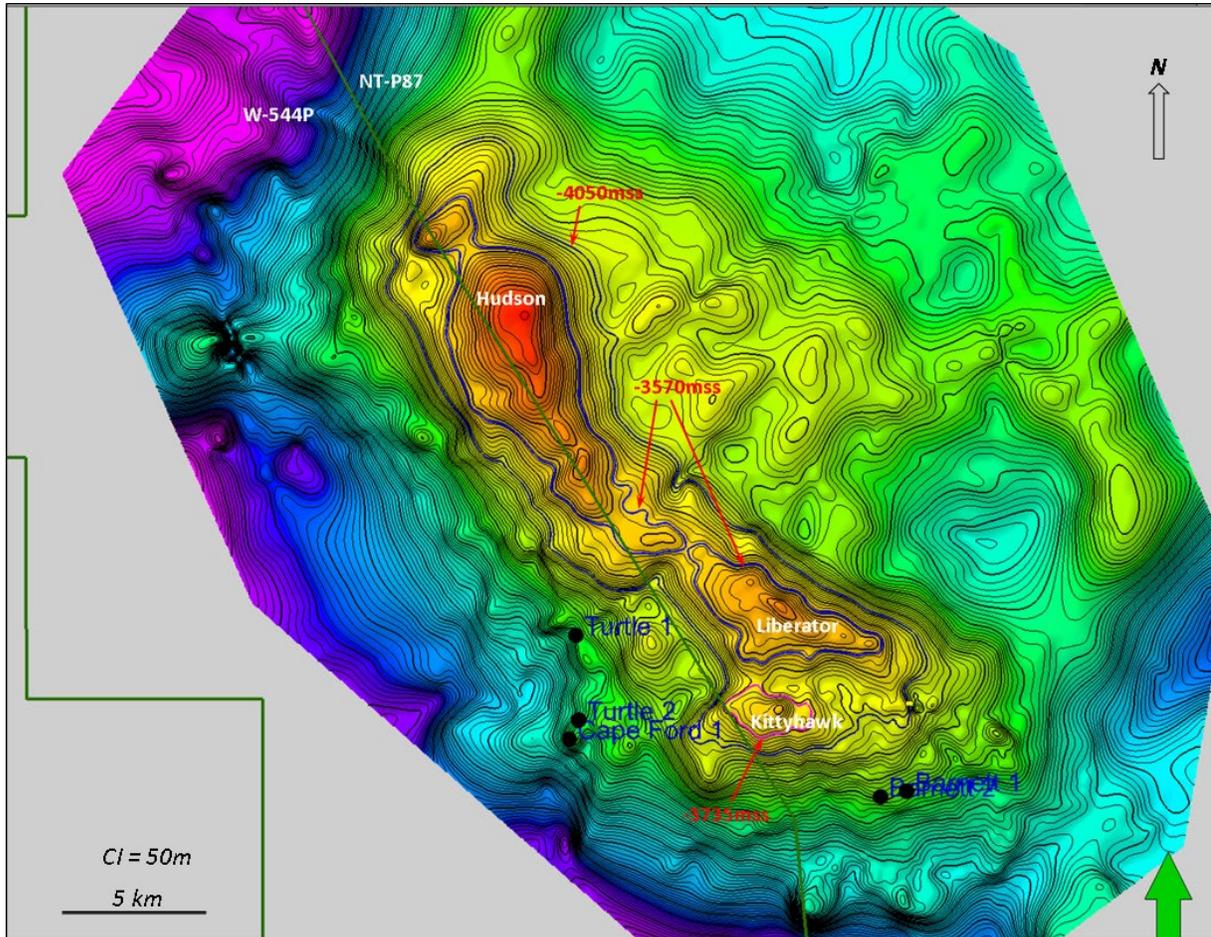
## Isolated Carbonate Platform setting

Brines from the land cannot reach the isolated platform preserving reservoirs



1. Regional setting indicates the Hudson area was an isolated Carbonate platform during the Devonian.
2. The isolated location of the build-up is key to the potential for porosity preservation in a carbonate setting.
3. Beehive, Ungani and Tengiz locations are all shelf detached (isolated platforms at Carboniferous/Tanmurra time) and as such are not exposed to the continental migrating fluids which cause diagenetic cements degrading reservoir quality in shelf attached platform fields.
4. The isolated setting allows the mixing of fresh and marine fluids to promote karsting and dolomitization which enhances porosity.

# Potential size of the prize

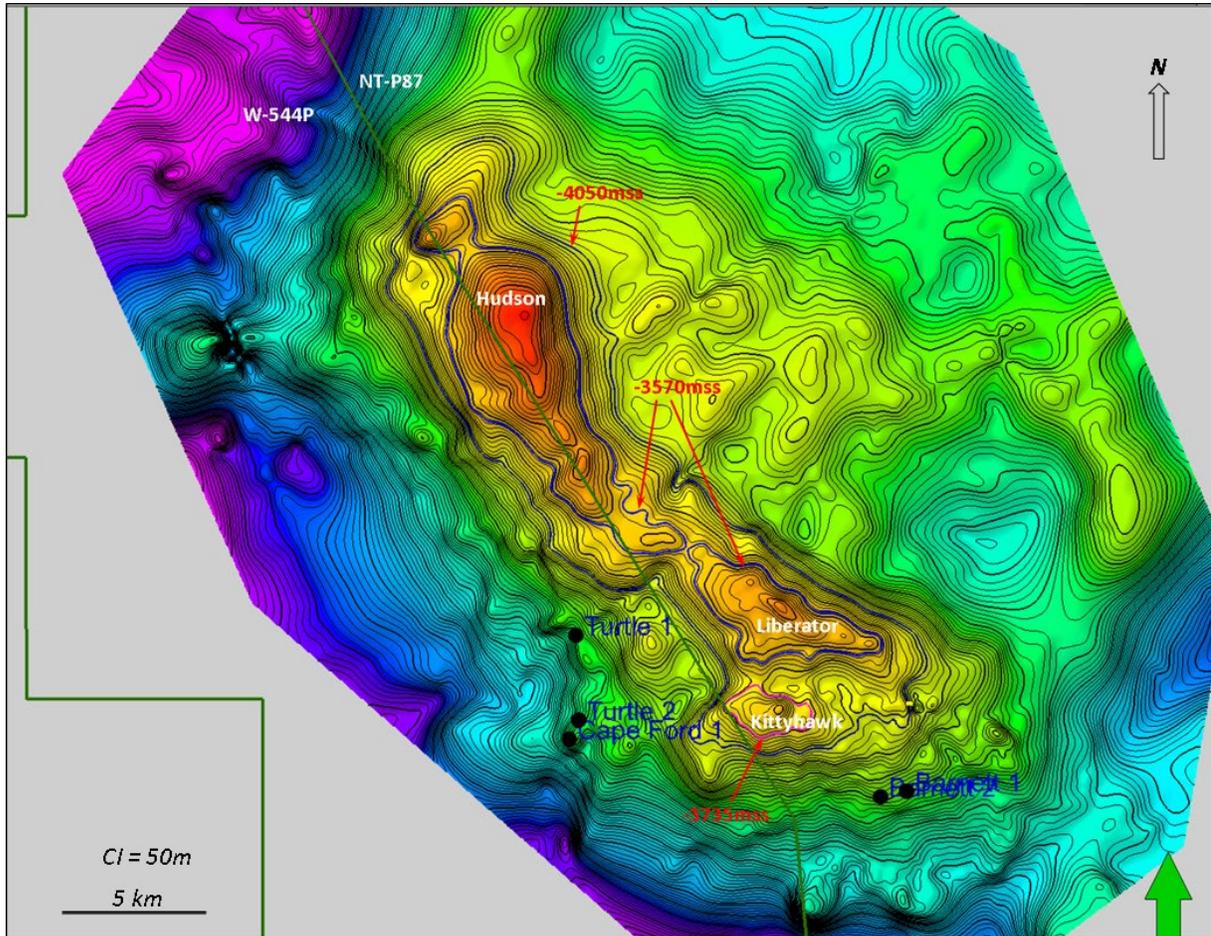


\* Cautionary Statement: Volumes here are a best estimate. The estimated quantities of petroleum that may be potentially by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable hydrocarbons. This best estimate may be a very optimistic estimate due the portfolio effects of arithmetical summation.

Gross Prospective Resources*				
Oil Only (mmboe)	P90	P50	Mean	P10
STOOIP	9	371	1,573	4,845
Recoverable	2	90	395	1,184
Gas Only (bcf)	P90	P50	Mean	P10
GIIF	16	700	3,070	10,097
Recoverable	11	466	2,034	6,741

- The whole carbonate platform has three individual culminations within it:
  - Hudson
  - Liberator
  - Kittyhawk
- Volumetrics presented here represent the whole platform with weighting applied to GRV distributions based on lead ranking.
- Volumetric input parameters based on global carbonate analogue data.
- Large range between minimum and maximum is indicative of the spread of uncertainty.
- Mapping based on vintage 2D seismic data and depth converted using regional velocity well based velocity data.

# Potential size of the prize



\* Cautionary Statement: Volumes here are a best estimate. The estimated quantities of petroleum that may be potentially by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a 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 recoverable hydrocarbons. This best estimate may be a very optimistic estimate due the portfolio effects of arithmetical summation.

Gross Prospective Resources*				
Oil Only (mmboe)	P90	P50	Mean	P10
STOOIP	9	371	1,573	4,845
Recoverable	2	90	395	1,184
Gas Only (bcf)	P90	P50	Mean	P10
GIIF	16	700	3,070	10,097
Recoverable	11	466	2,034	6,741

- The whole carbonate platform has three individual culminations within it:
  - Hudson
  - Liberator
  - Kittyhawk
- Volumetrics presented here represent the whole platform with weighting applied to GRV distributions based on lead ranking.
- Volumetric input parameters based on global carbonate analogue data.
- Large range between minimum and maximum is indicative of the spread of uncertainty.
- Mapping based on vintage 2D seismic data and depth converted using regional velocity well based velocity data.



For further details please contact:

**Melbana Energy Limited**  
**ABN 43 066 447 952**

Duncan Lockhart  
Exploration Manager  
[duncan.lockhart@melbana.com](mailto:duncan.lockhart@melbana.com)

Telephone: +61 2 8323 6600  
Mobile: +61 (0) 448 812 749