

## Investor Webinar Presentation

SYDNEY, AUSTRALIA (22 February, 2023)

**Melbana Energy Limited (ASX: MAY, Melbana)** is pleased to provide a copy of the Investor Presentation that will be discussed at today's Investor Webinar.

The investor webinar will commence at 11:00 AM Sydney time (AEDT) today.

Written questions can still be submitted now or during the webinar to [sam.jacobs@sdir.com.au](mailto:sam.jacobs@sdir.com.au) or [alex@investorstream.com.au](mailto:alex@investorstream.com.au) and these will be addressed after verbal questions are answered.

Anyone wishing to attend the webinar must register using the below link.

### **Webinar Details**

**Date and time:** 11:00 AM AEDT on Wednesday, 22 February 2023.

**Register via:** <https://attendee.gotowebinar.com/register/8874108199454006879>

**For and on Behalf of the Board of Directors:**      **For further information please contact**

Mr Andrew Purcell  
Executive Chairman

Ms Cate Friedlander  
Company Secretary  
+61 2 8323 6600

Ends -

## Investor Webinar

22 February 2023



# Disclaimer

For personal use only

**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.

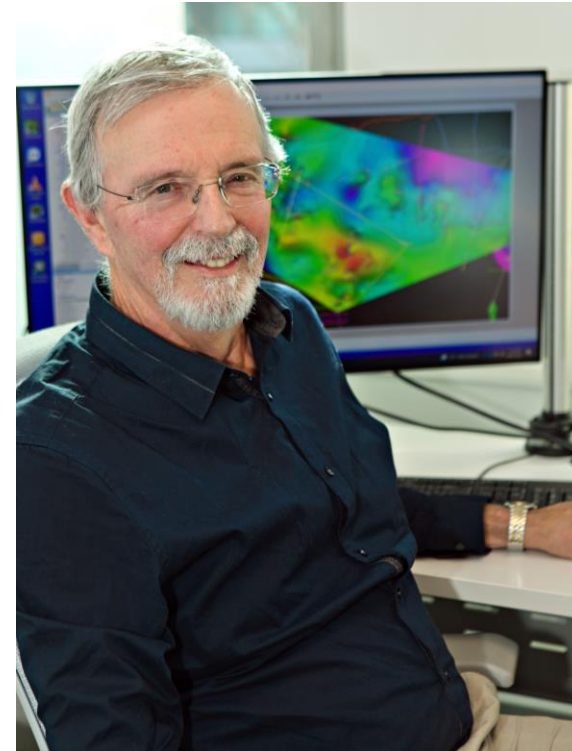
**No distribution:** Distribution of this presentation may be restricted by law. Persons who come into possession of this presentation should seek advice on and observe any such restrictions. Any failure to comply with such restrictions may constitute a violation of applicable securities laws.

**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.

# Agenda

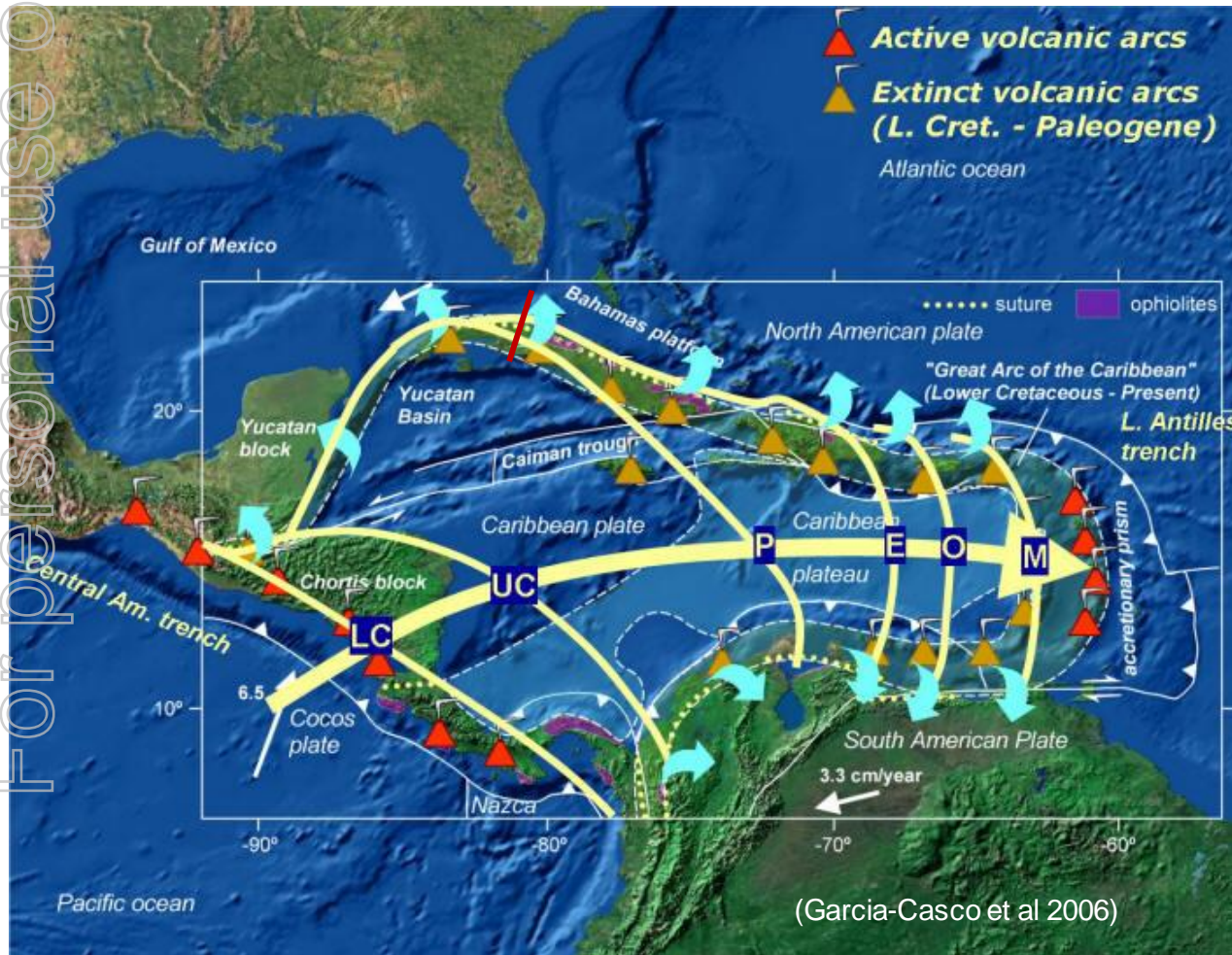
1. Upcoming Appraisal Well (Alameda-2)
2. Cuba – Geological Overview
3. Q&A
4. Conclusion



**Errol Johnstone**  
Chief Geoscientist  
Melbana Energy Limited

# North Cuba Tectonics - Structural Kinematic Model

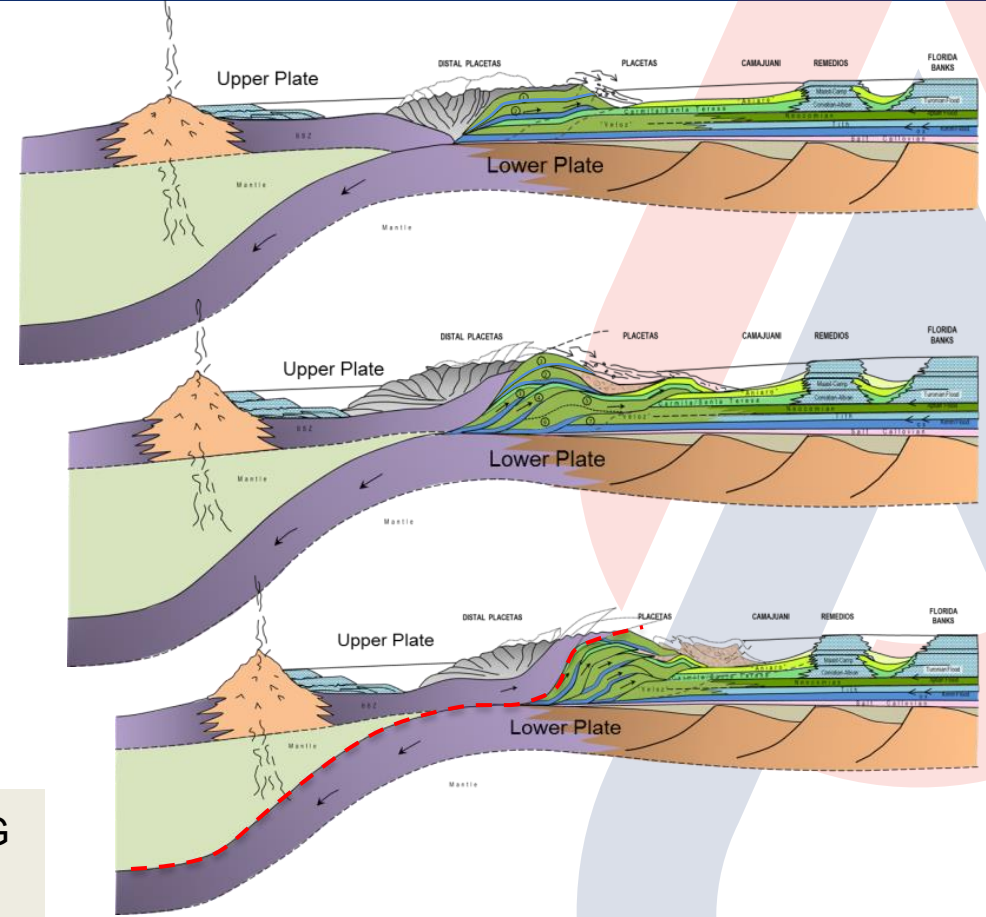
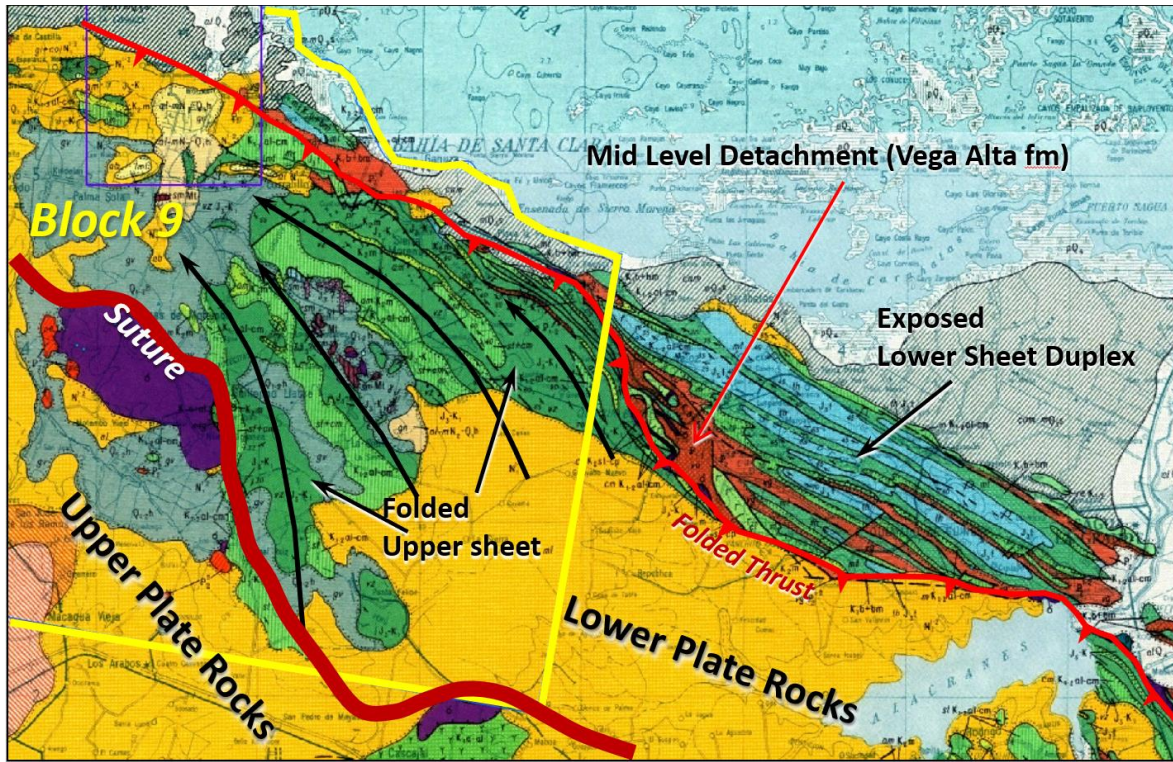
WHAT IS THE DRIVING MECHANISM/TIMING FOR THE FOLDBELT STRUCTURES BEING INTERPRETED - REGIONAL CONSISTENCY



1. Cuban foldbelt is created by an Island Arc/Continental Margin Collision
2. Consider the Paleo Positions of the Arc/Subduction front through time
3. Much debate about Caribbean plate origins Pacific v insitu
4. The greater Antilles Arc system is clearly rolling back towards the NE and East
5. For our analyses, assume that a lower Plate proto GOM Jurassic crust is subducted beneath the converging upper plate Central American Arc system
6. This Arc system contains Ophiolites with SSZ style fore-arc affinities
7. NE directed compression creates the Cuban fold belt from Campanian through Eocene until the Bahamas banks chokes the south dipping subduction zone
8. Transcurrent fault at the Caiman Trough breaks through and rollback continues to the East
9. The contemporary Arc follows the rollback progressively from the Paleocene – Eocene – Miocene to present position at the Lesser Antilles Arc of the West Indies

# Block 9: Outcrop Expression of These Structural Elements

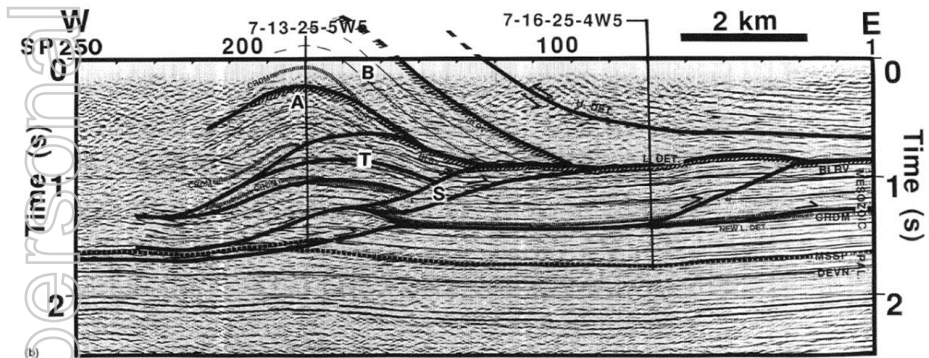
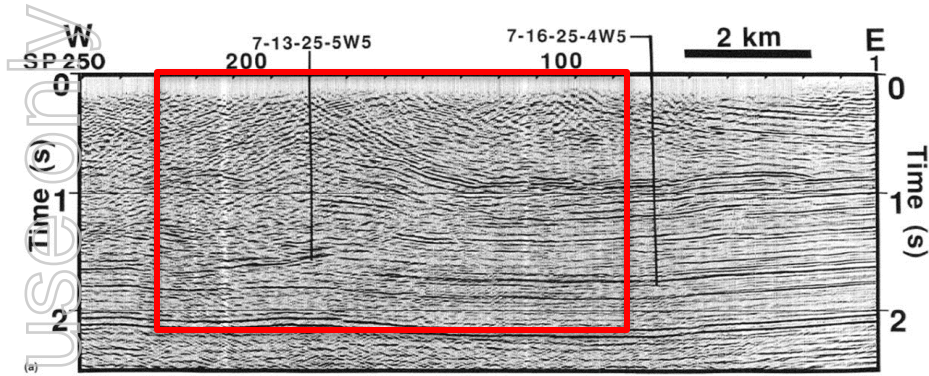
For personal use only



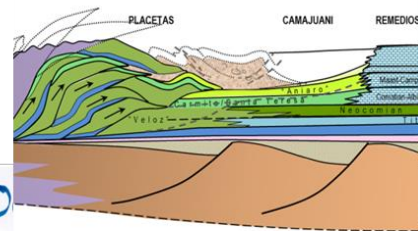
MELBANA'S STRUCTURAL WORK HAS CONCLUDED THAT THE FOLLOWING OBSERVATIONS CAN BE MADE:

- Suture between Upper Plate rocks (Arc complex / Ophiolites) and the Lower Plate Remedios succession seen in outcrop
- Lower Plate composed of an Upper sheet (distal carbonates) folded by a duplexed Lower Sheet
- Thrusted contact between the Upper and Lower sheet defines the mid level detachment.
  - The Upper Sheet was emplaced on top of the Lower Sheet during early stages
  - The Lower Sheet is an exhumed duplex involving proximal Jurassic to early Cretaceous
  - Later structuring of the Lower Sheet refolded the Upper Sheet and the thrust contact

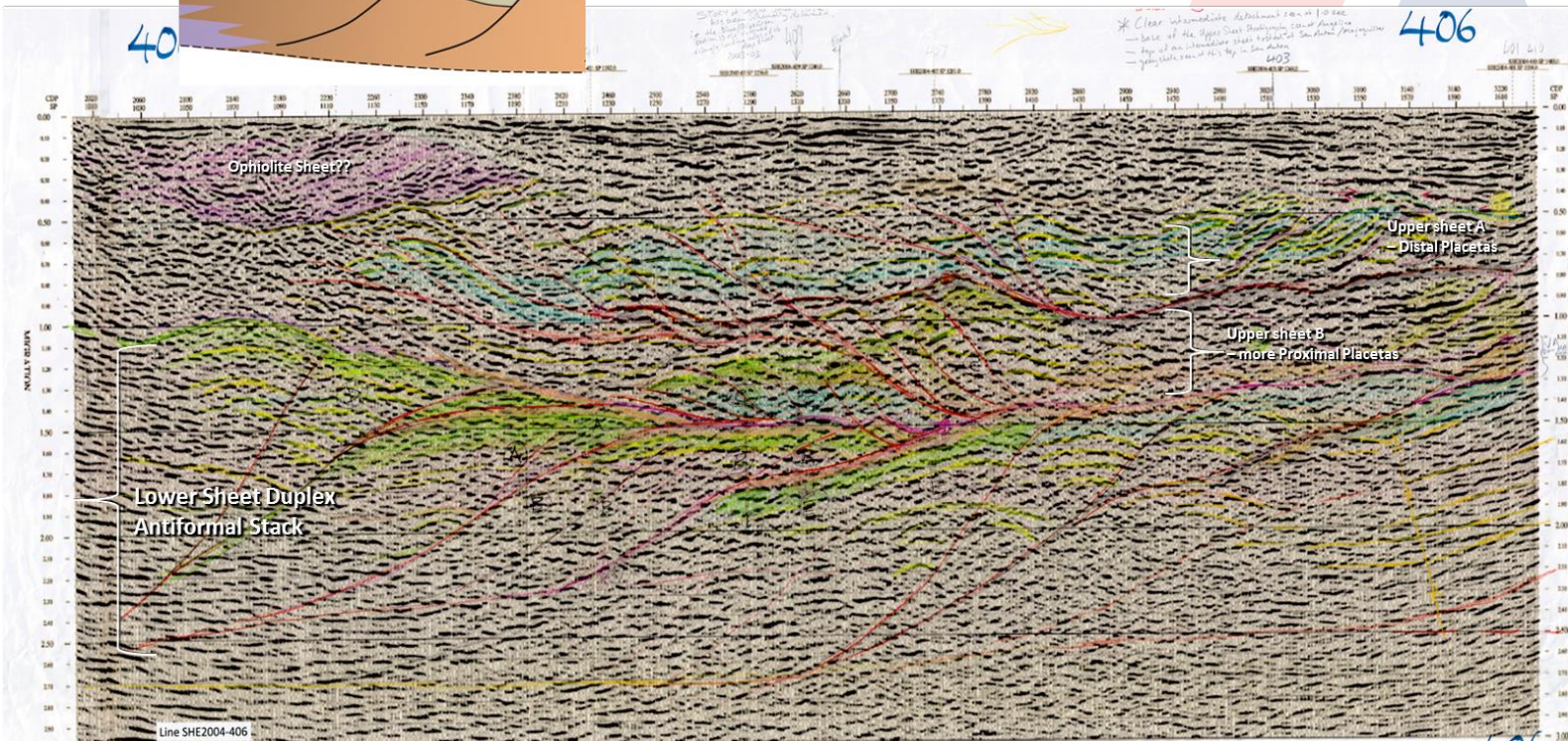
# The Leading Edge Triangle Zone – Hanging Wall Wedges Driving Backthrusting



Jumping Pound Field example, Alberta Canada

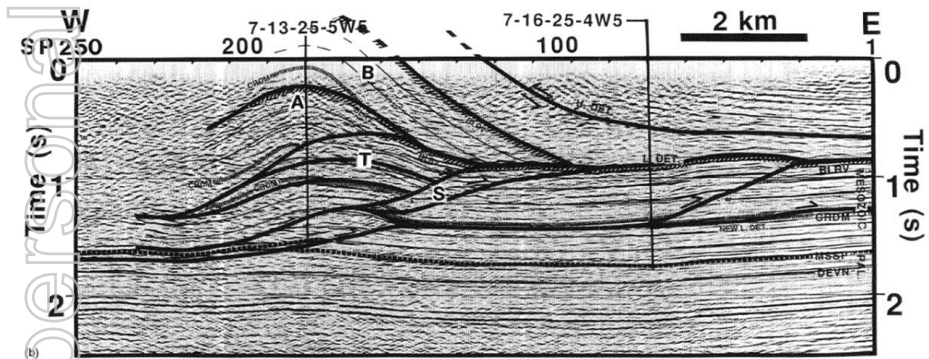
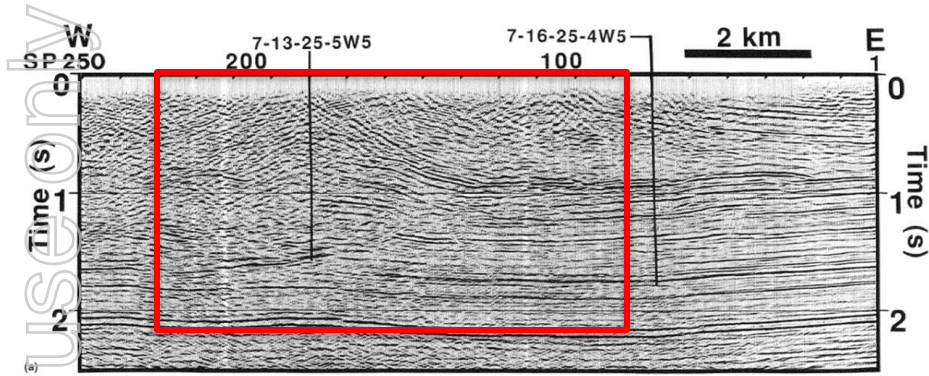


- **Blind wedge Duplex in the lower sheet** driving Upper Sheet deformation
- Imbricated backthrust upper sheet responding to blind wedge emplacement
- Upper sheet has been internally repeated ....clear intra sheet detachment visible
- Most distal facies on top (cherts)....drilled at Angelina

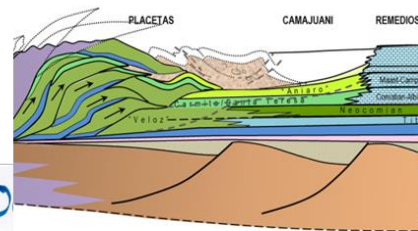


- Similar Geometries visible on line 406 from Block 9 showing a blind wedge duplex forcing into a triangle zone in the foreland at the mid level detachment.
- This emplacement drives back thrust deformation in the Cover sheets

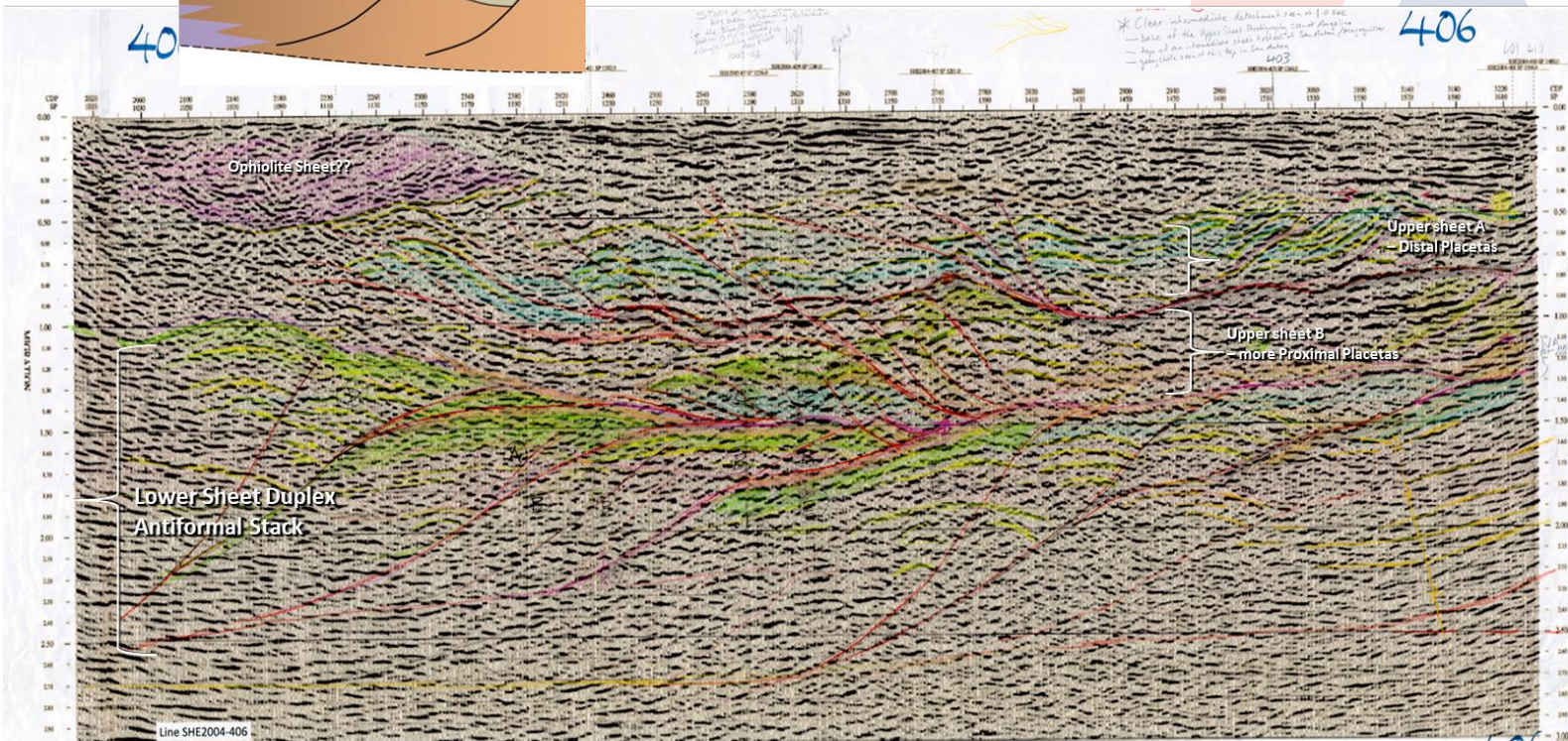
# The Leading Edge Triangle Zone – Hanging Wall Wedges Driving Backthrusting



Jumping Pound Field example, Alberta Canada



- **Blind wedge Duplex in the lower sheet** driving Upper Sheet deformation
- Imbricated backthrust upper sheet responding to blind wedge emplacement
- Upper sheet has been internally repeated ....clear intra sheet detachment visible
- Most distal facies on top (cherts)....drilled at Angelina

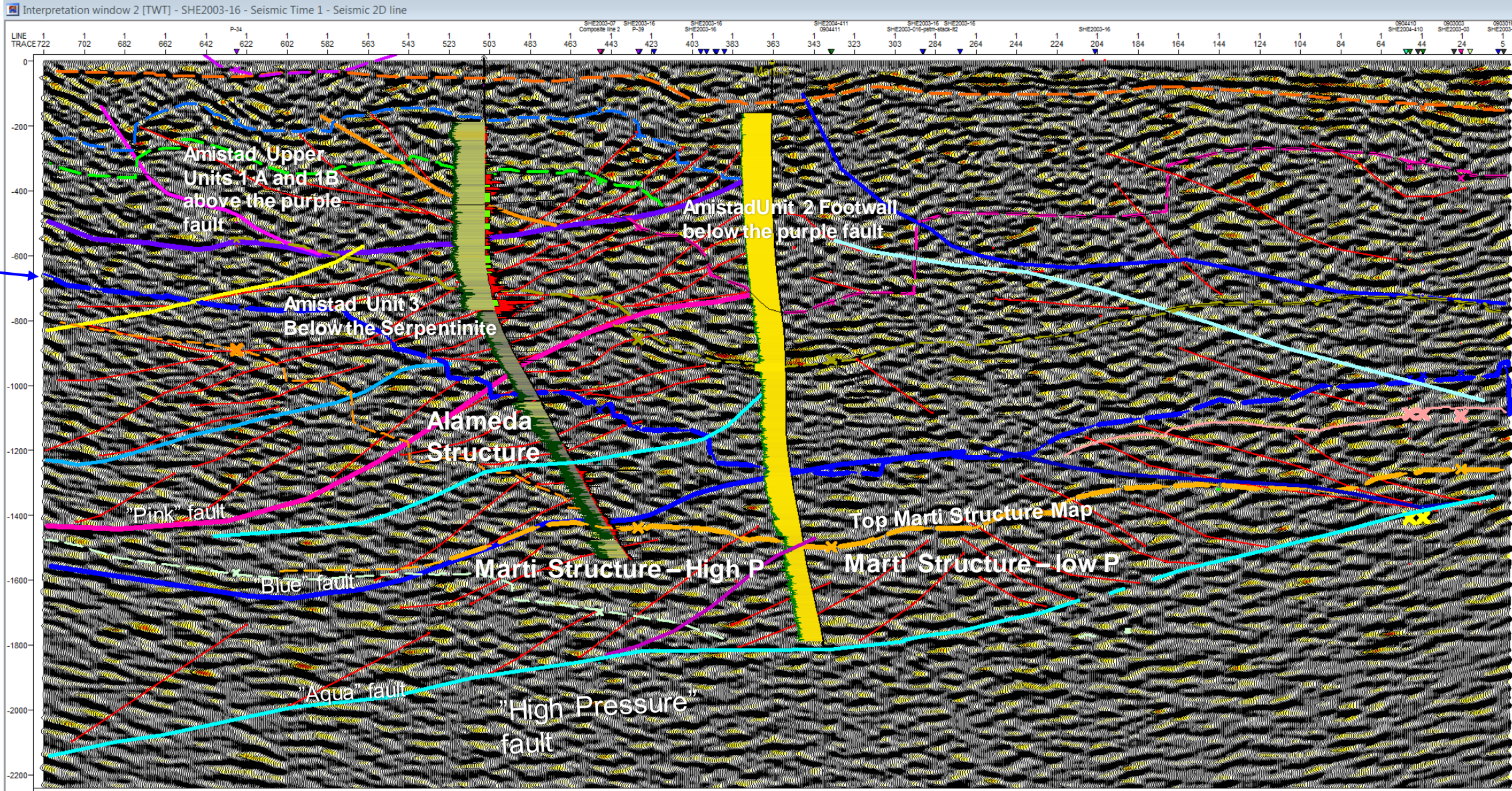


- Similar Geometries visible on line 406 from Block 9 showing a blind wedge duplex forcing into a triangle zone in the foreland at the mid level detachment.
- This emplacement drives back thrust deformation in the Cover sheets



# South to North Profile SHE2003-16 through Alameda and Marti 5

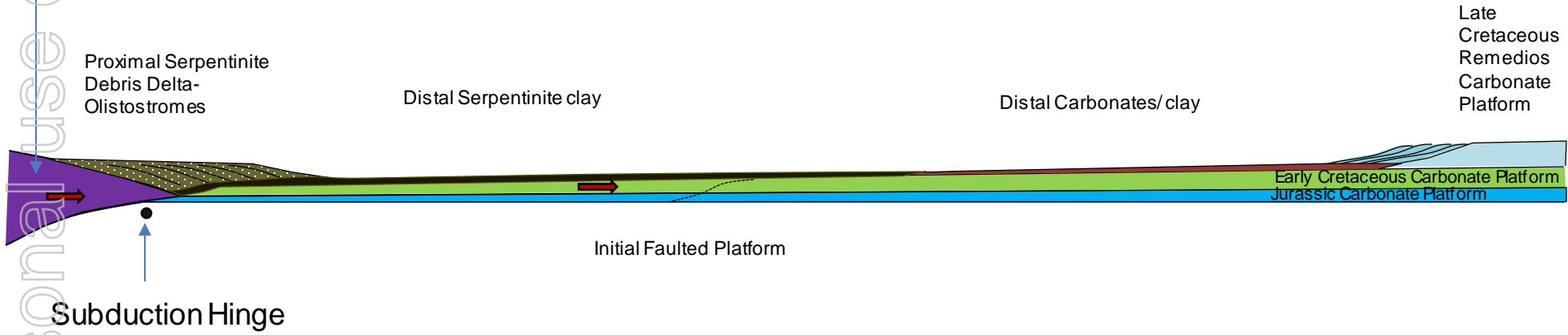
For personal use only



# Examine Closely the Emplacement of Separate Sheets during the Collision

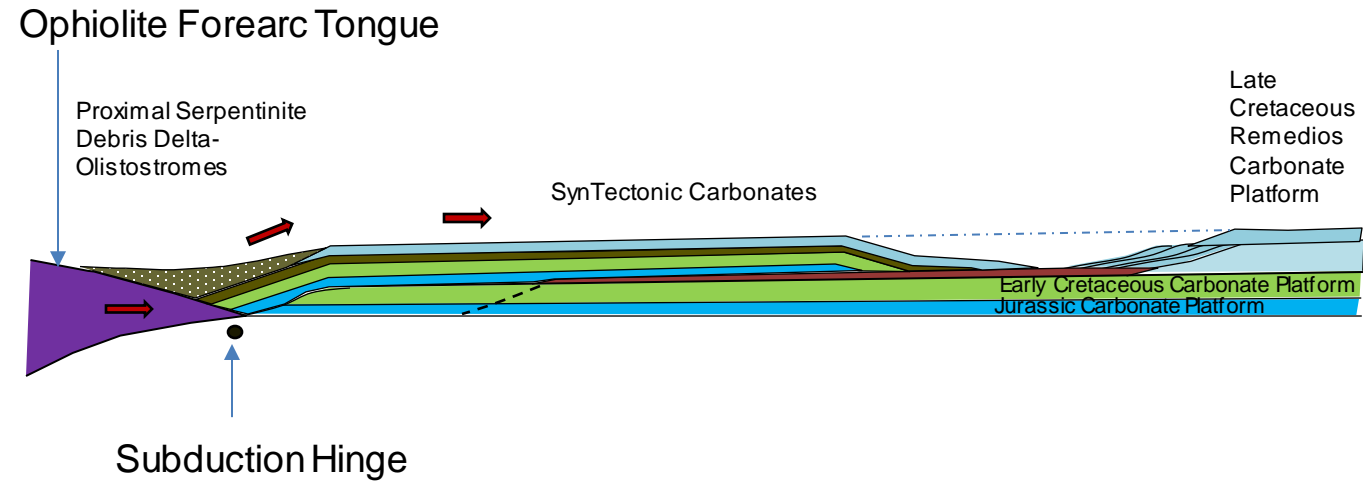
For personal use only

## Ophiolite Forearc Tongue



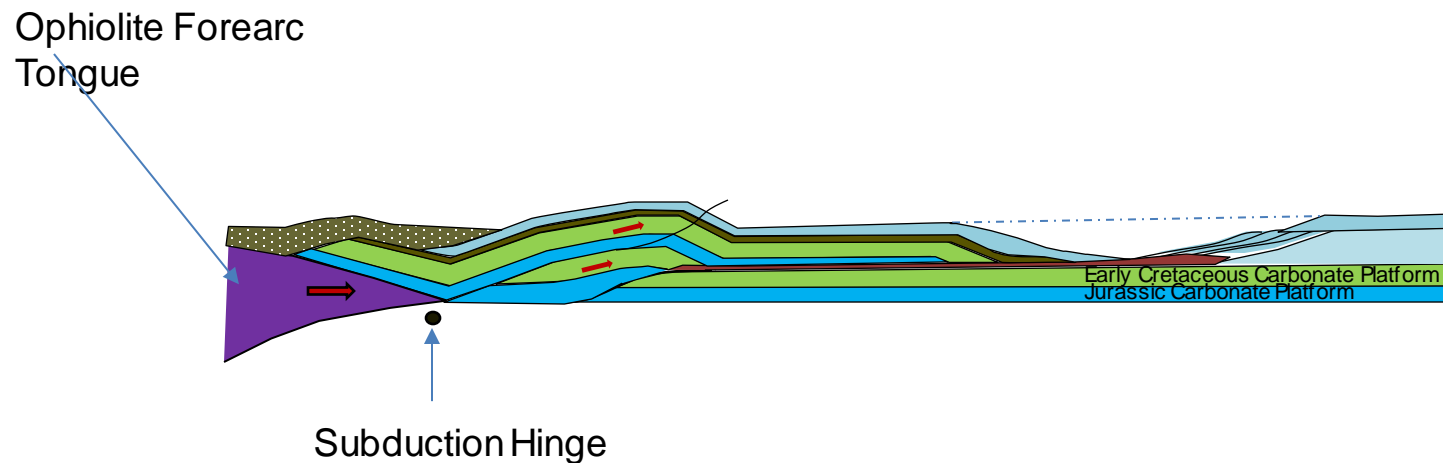
# Examine Closely the Emplacement of Separate Sheets during the Collision

For personal use only



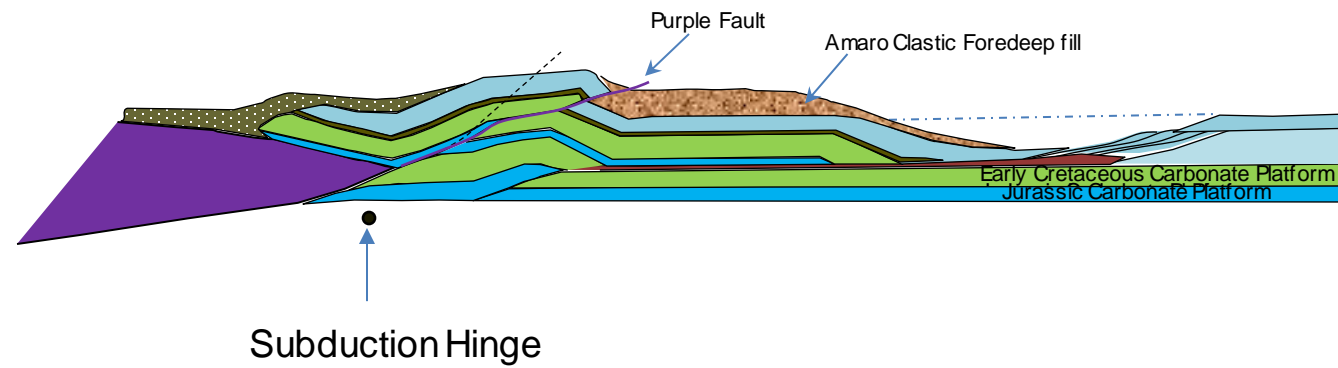
# Examine Closely the Emplacement of Separate Sheets during the Collision

For personal use only



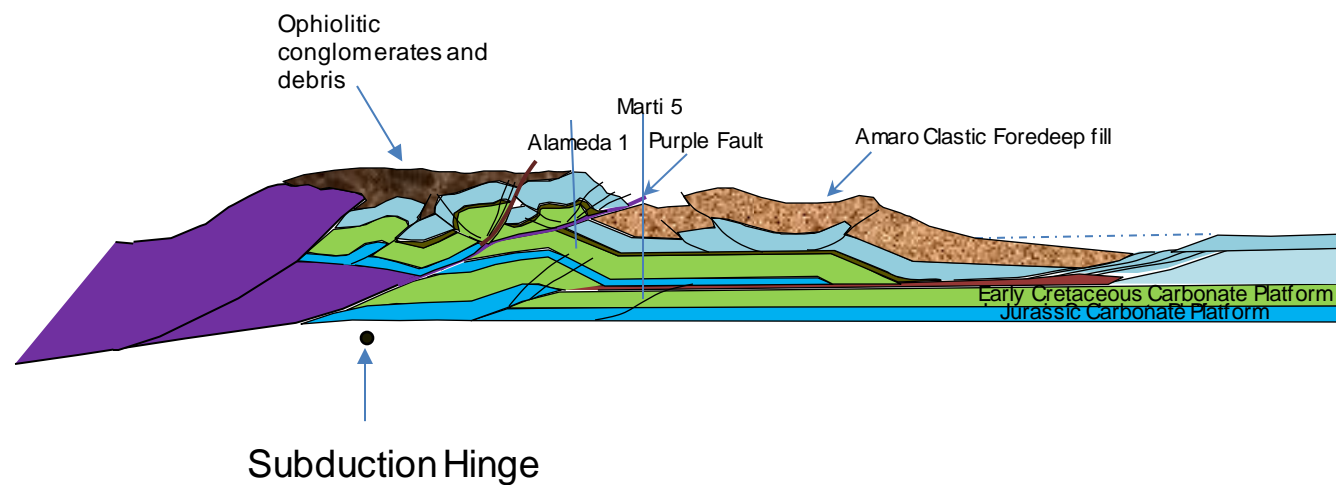
# Examine Closely the Emplacement of Separate Sheets during the Collision

For personal use only



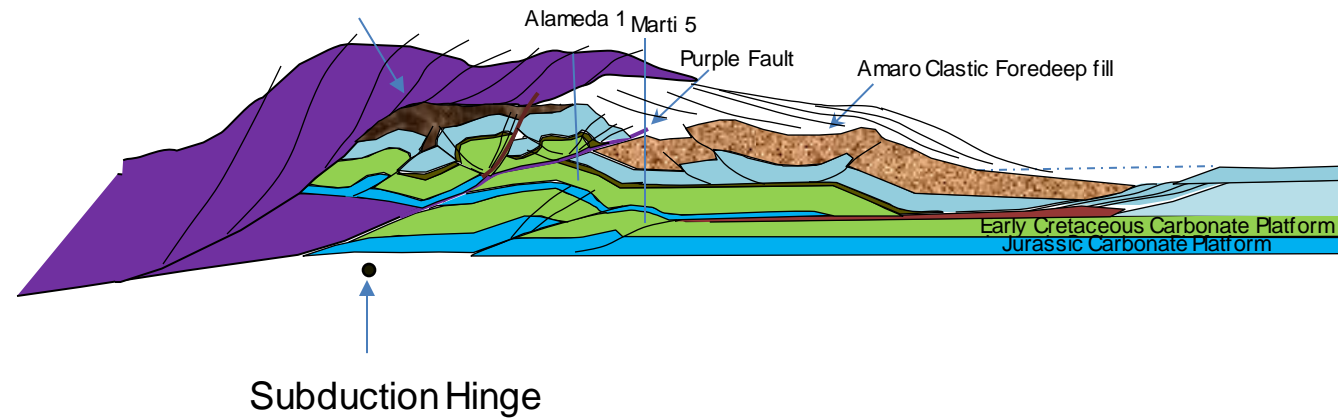
# Examine Closely the Emplacement of Separate Sheets during the Collision

For personal use only



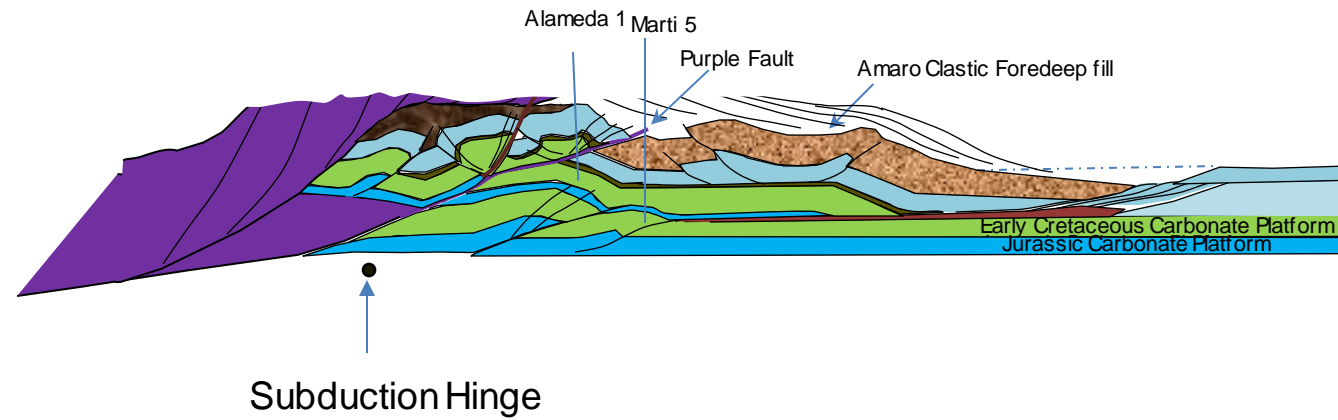
# Examine Closely the Emplacement of Separate Sheets during the Collision

For personal use only



# Examine Closely the Emplacement of Separate Sheets during the Collision

For personal use only

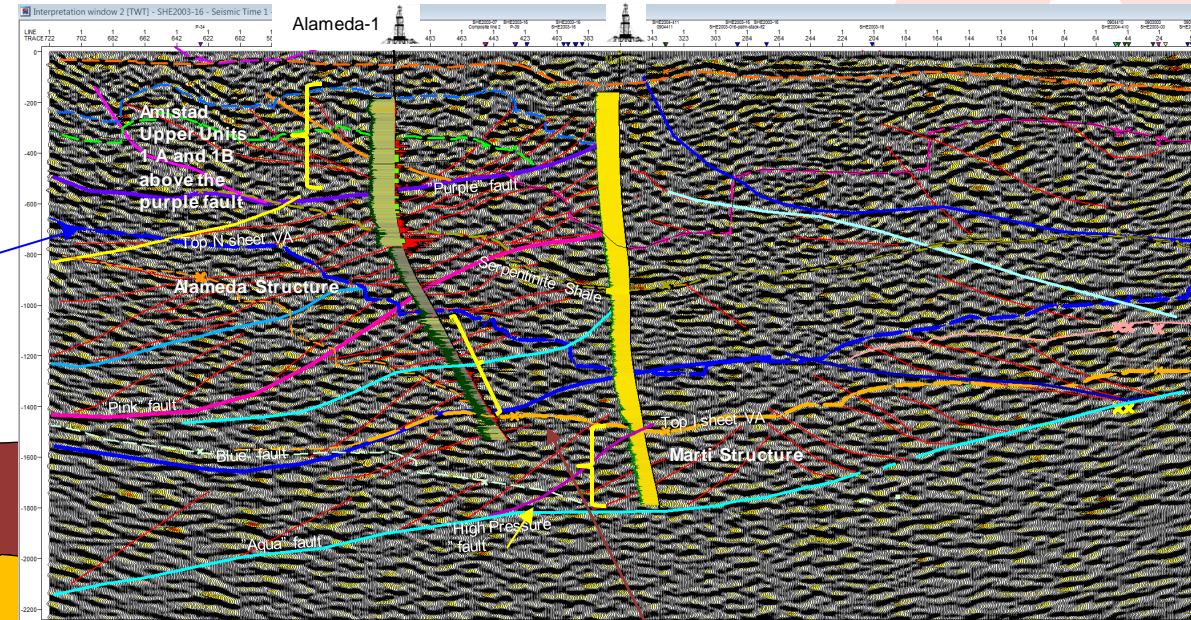




# Basic Structural Model – Alameda and Marti Structures

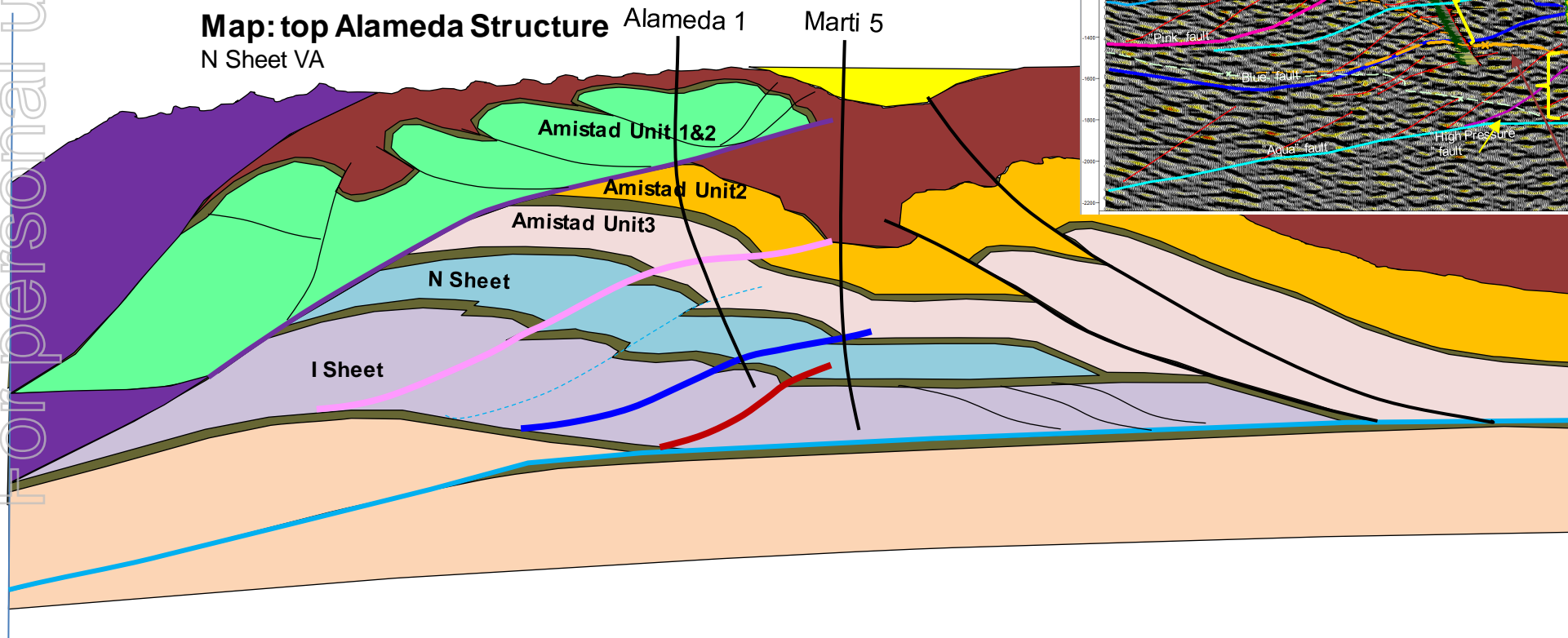
- Model is composed of several individual Thrust sheets
- Each sheet has a flat fault at the top of each Vega Alta seal/detachment layer
- Each sheet is also internally imbricated and duplexed between the top and base seal/detachments with second order thrust horses

For personal use only



**Map: top Alameda Structure**  
N Sheet VA

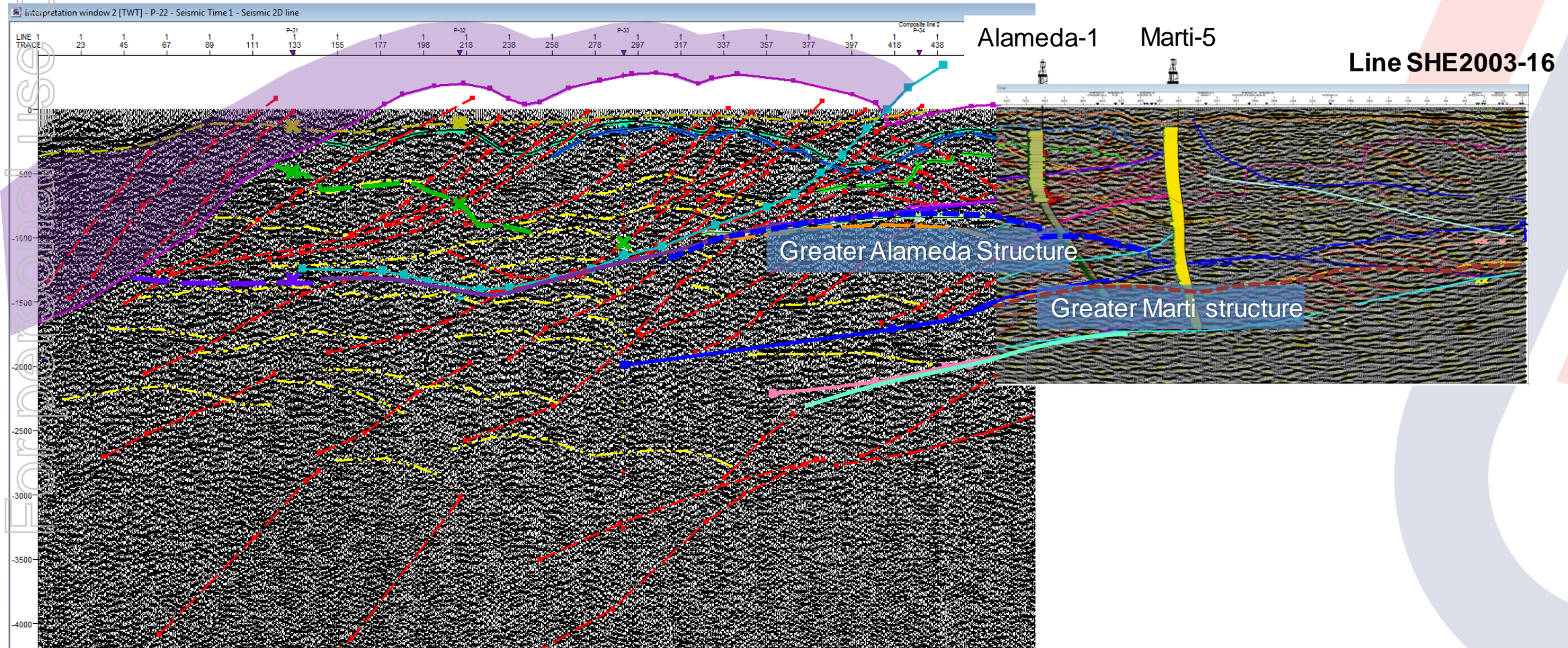
**Map: top Alameda Structure**  
N Sheet VA



**Map: top Marti Structure**  
I Sheet VA - Foreland to Blue Fault

# Lower Sheets extend to the South demonstrating significant potential

- Basic Structural Model extends back to the south under the Ophiolite obduction
- There are multiple stacked sheets evidenced on older seismic line
- The Alameda and Marti Beams extend into this area



For personal use only



**Melbana**  
**Energy**

Melbana Energy Limited  
ABN 43 066 447 952

Mezzanine Floor, 388 George Street  
Sydney NSW 2000  
AUSTRALIA

Contact

Telephone:

+61 (2) 8323 6600

Email:

[admin@melbana.com](mailto:admin@melbana.com)

