

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 or 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

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.

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

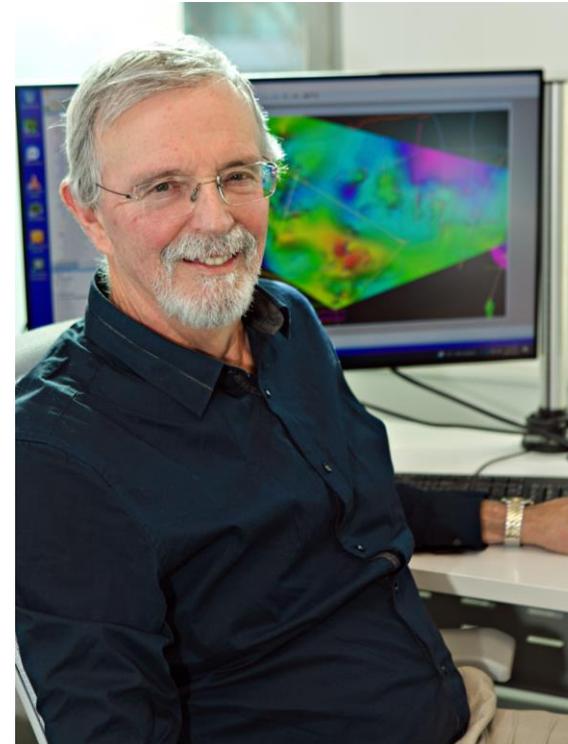
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Contingent and Prospective Resources: Unless otherwise specified, the information that relates to Contingent Resources and Prospective Resources for Melbana is based on, and fairly represents, information and supporting documentation compiled by Mr. 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 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

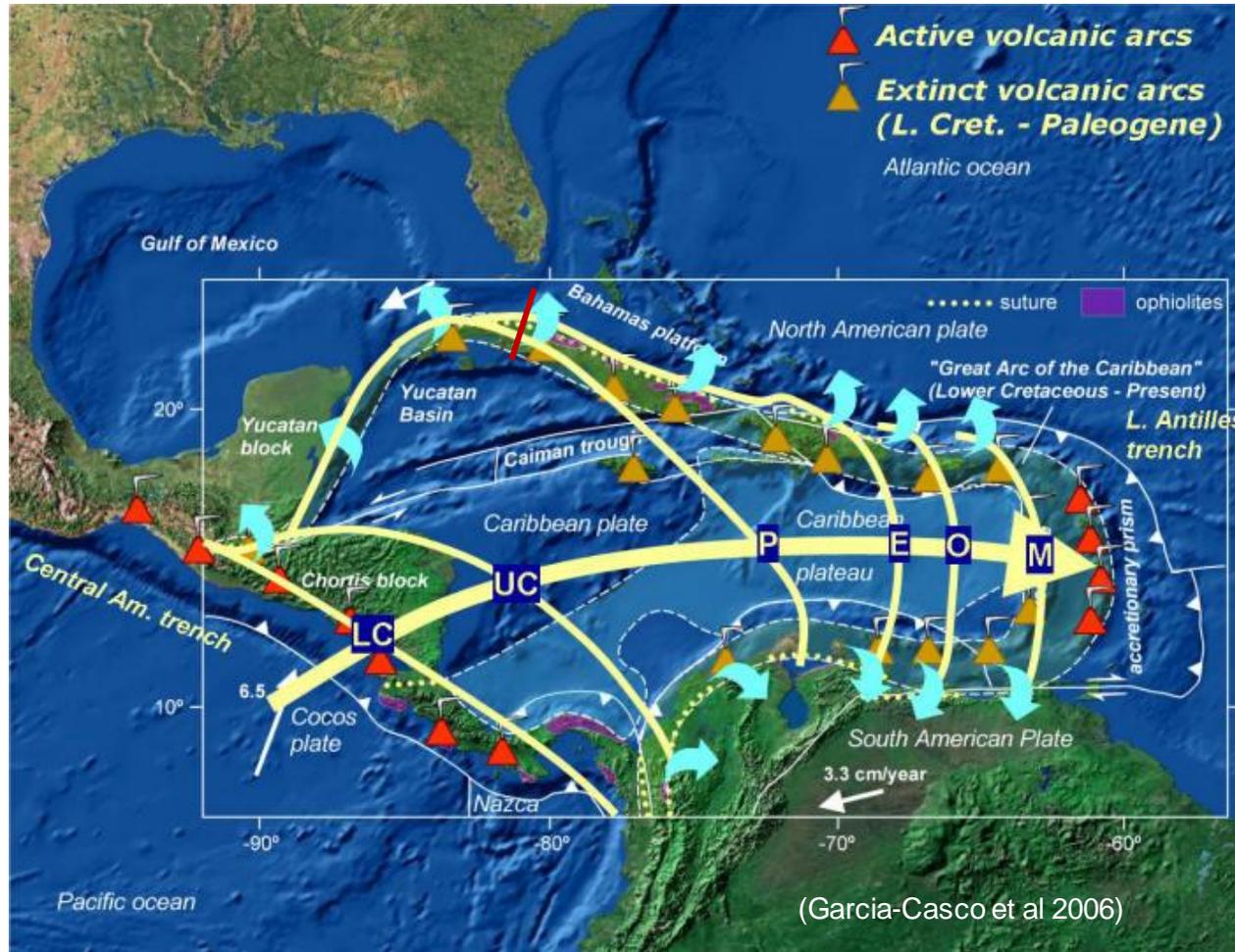
1. Upcoming Appraisal Well (Alameda-2)
2. Cuba – Geological Overview
3. Q&A
4. Conclusion



Errol Johnstone
Chief Geoscientist
Melbana Energy Limited

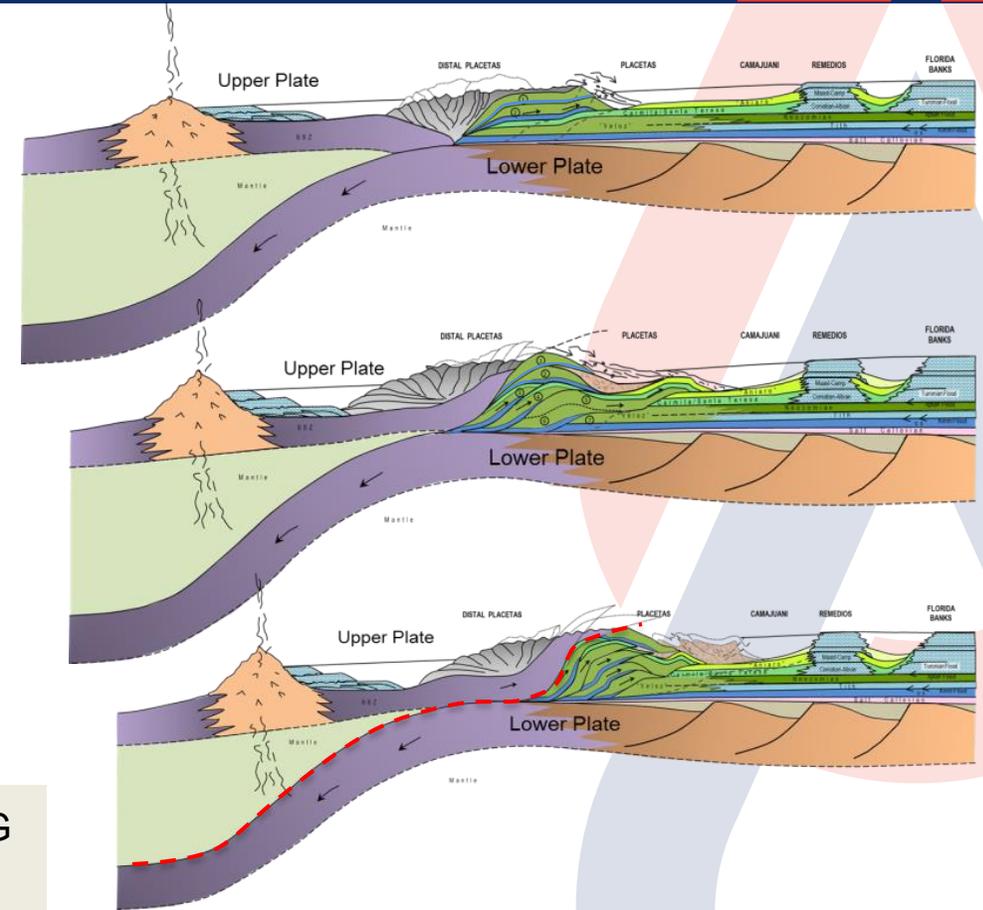
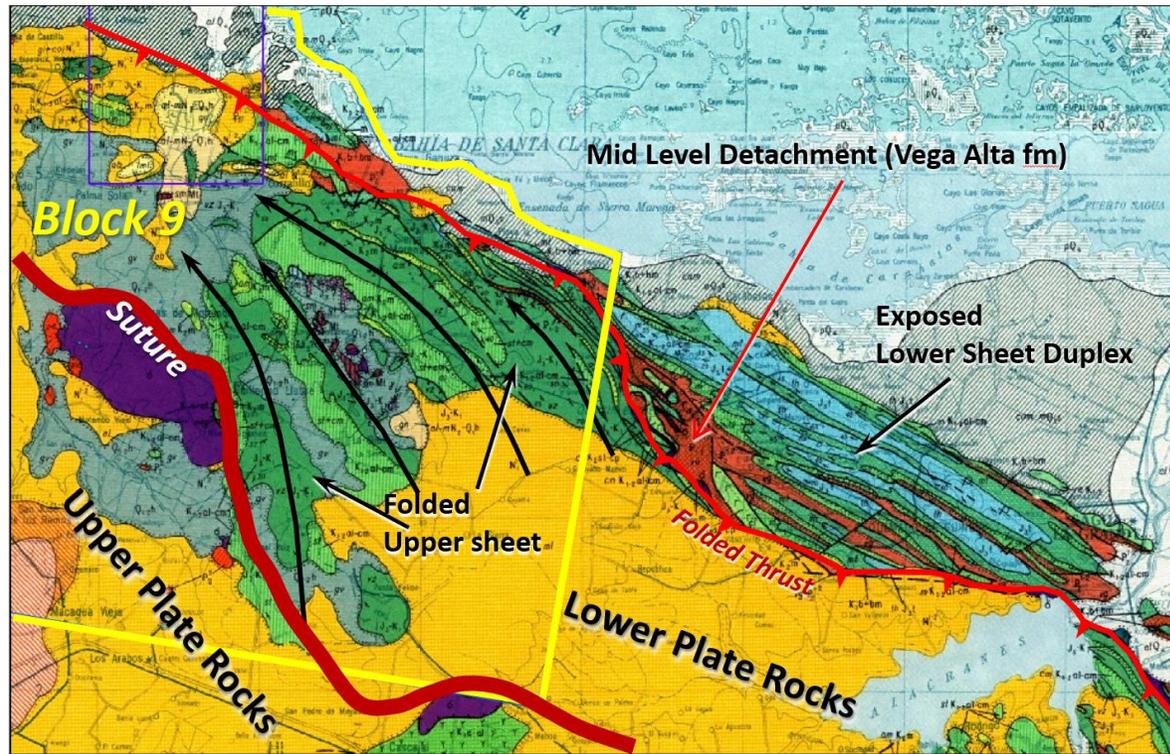
North Cuba Tectonics - Structural Kinematic Model

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

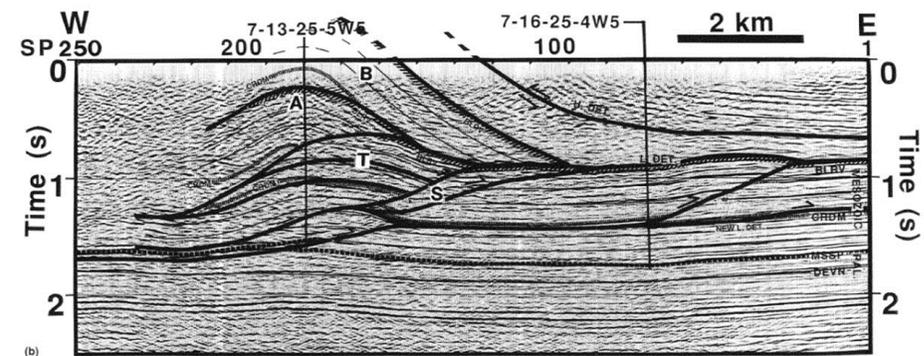
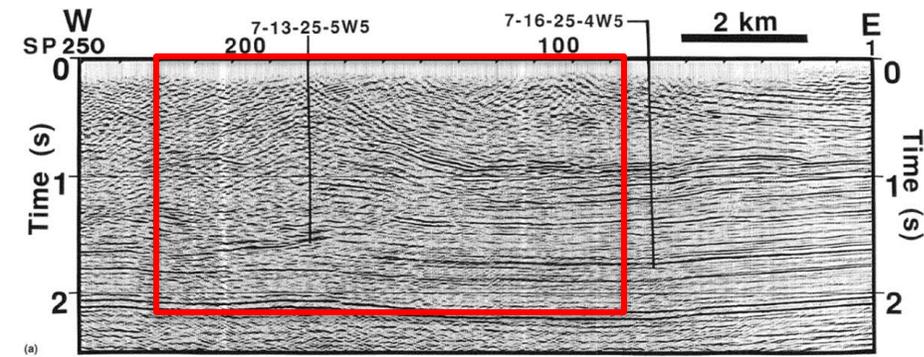
Block 9: Outcrop Expression of These Structural Elements



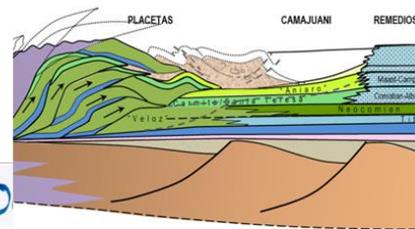
MELBANA'S STRUCTURAL WORK HAS CONCLUDED THAT THE FOLLOWING OBSERVATIONS CAN BE MADE:

- 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

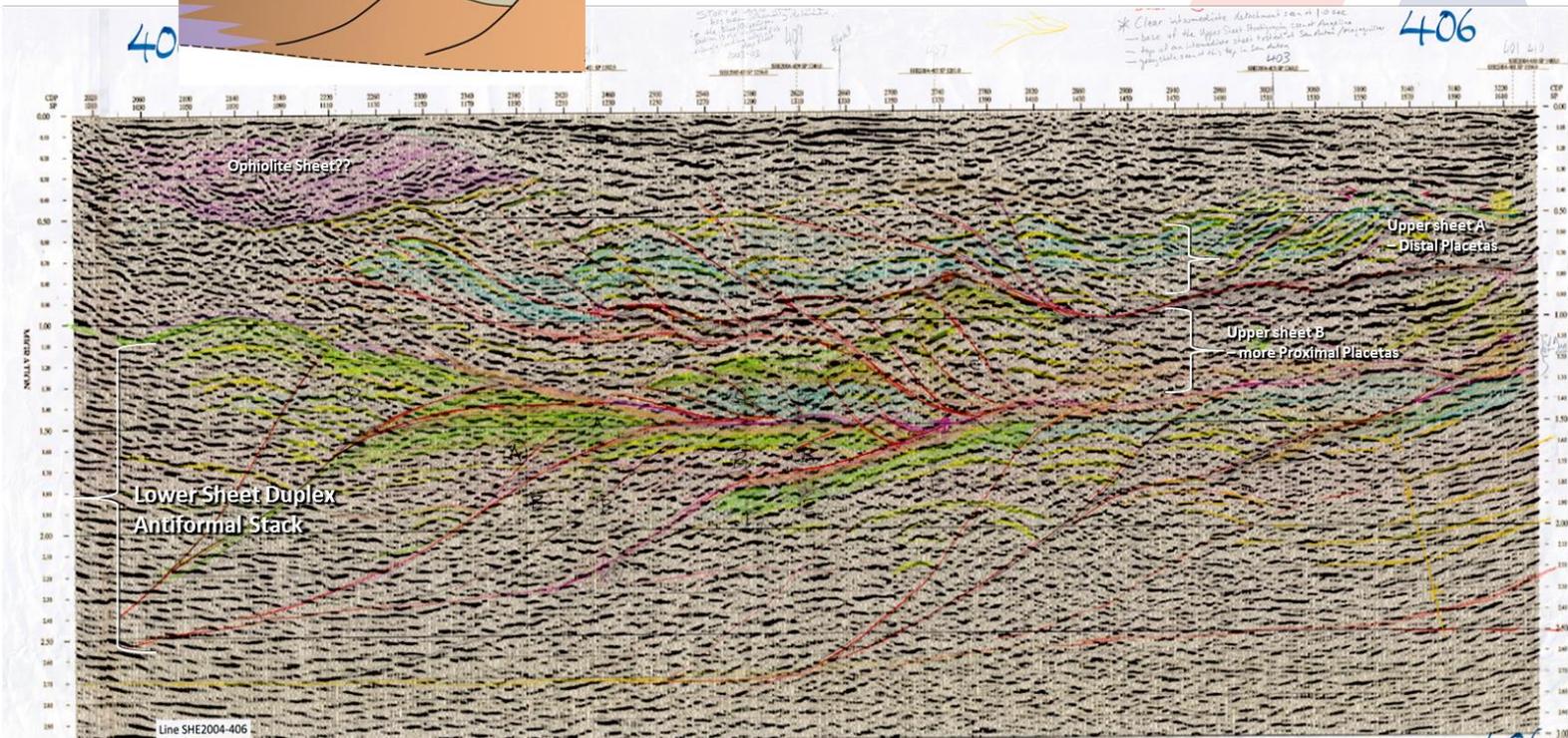
The Leading Edge Triangle Zone – Hanging Wall Wedges Driving Backthrusting



Jumping Pound Field example , Alberta Canada

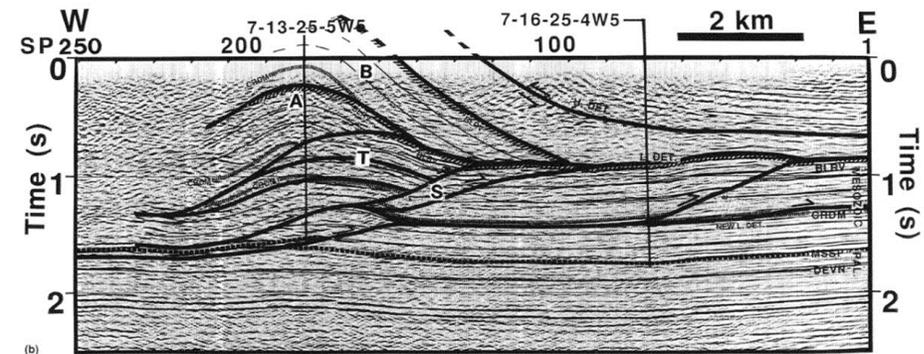
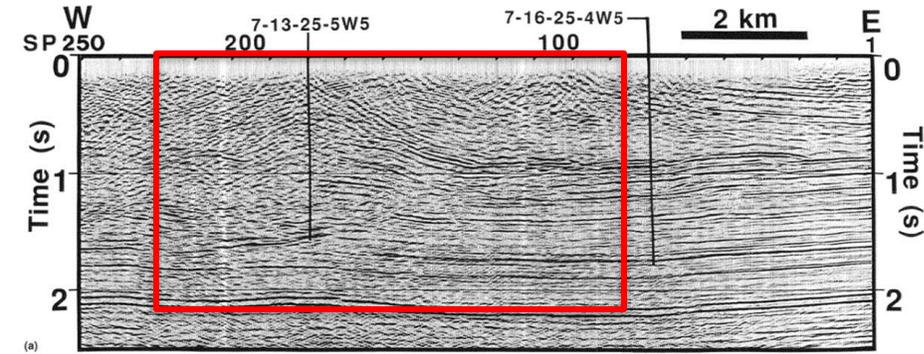


- **Blind wedge Duplex in the lower sheet** driving Upper Sheet deformation
- Imbricated backthrust upper sheet responding to blind wedge emplacement
- Upper sheet has been internally repeatedclear intra sheet detachment visible
- Most distal facies on top (cherts)....drilled at Angelina

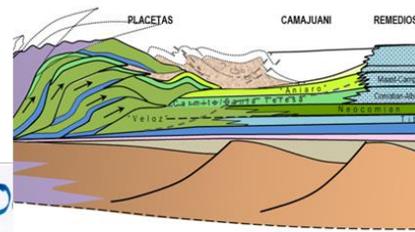


- Similar Geometries visible on line 406 from Block 9 showing a blind wedge duplex forcing into a triangle zone in the foreland at the mid level detachment.
- This emplacement drives back thrust deformation in the Cover sheets

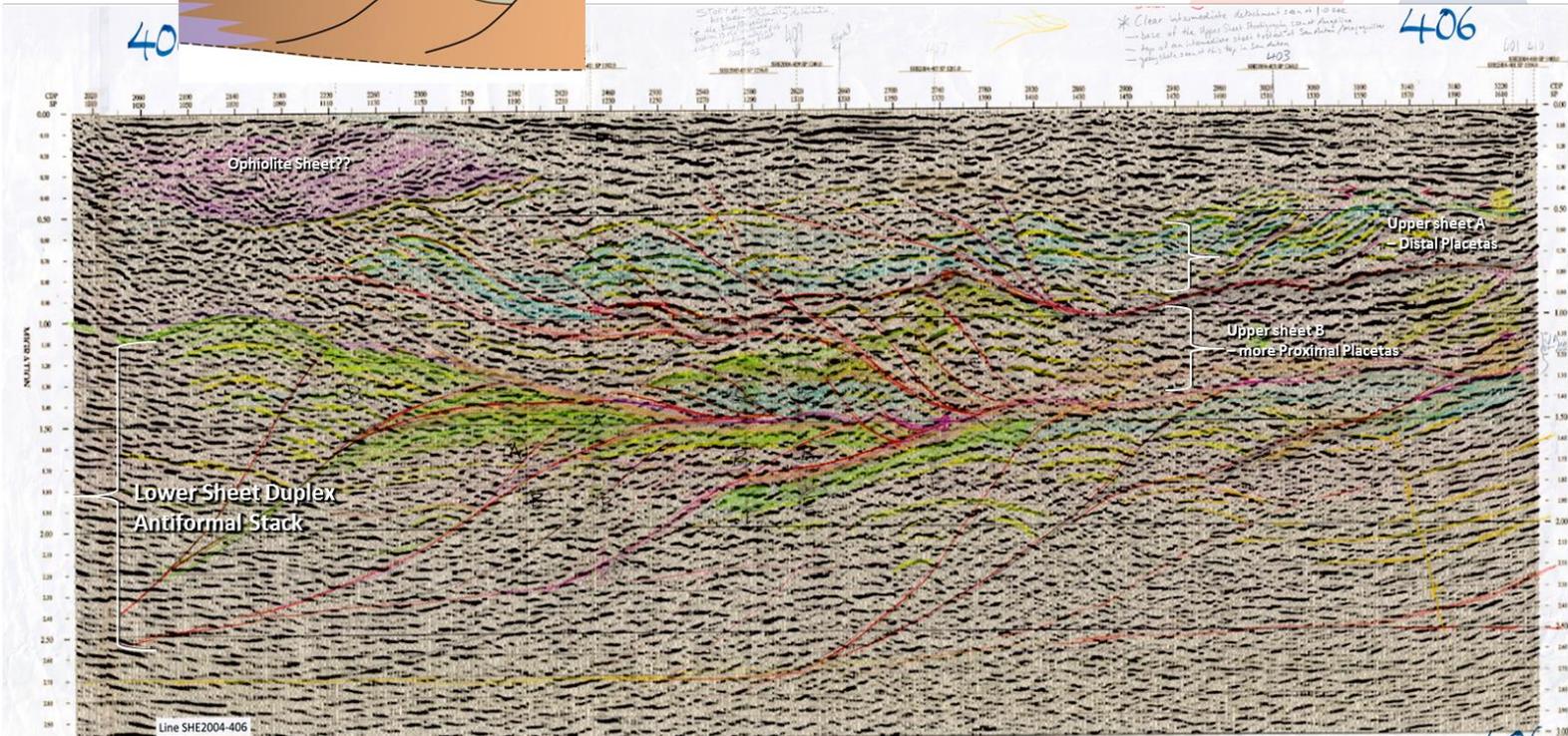
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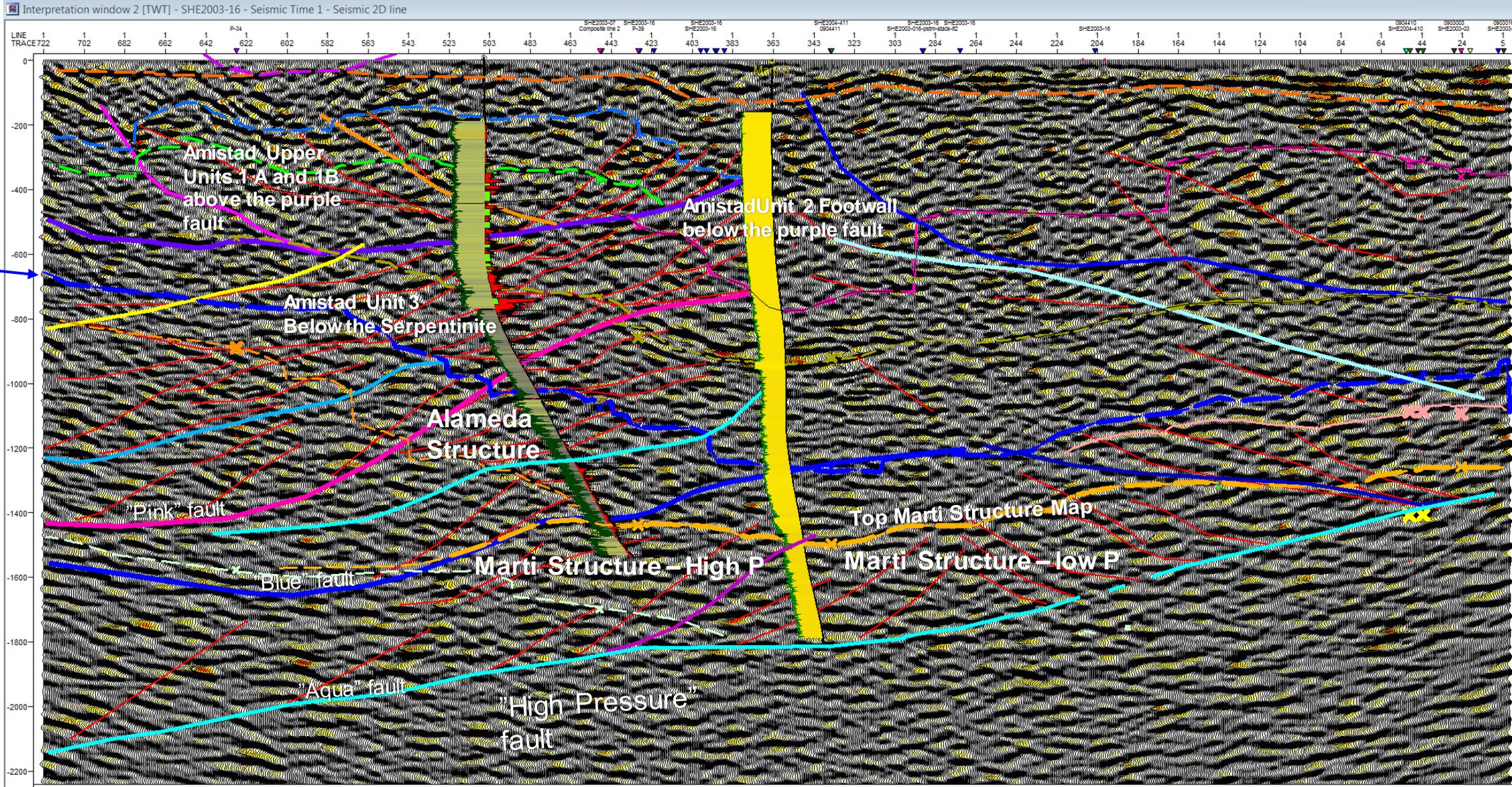


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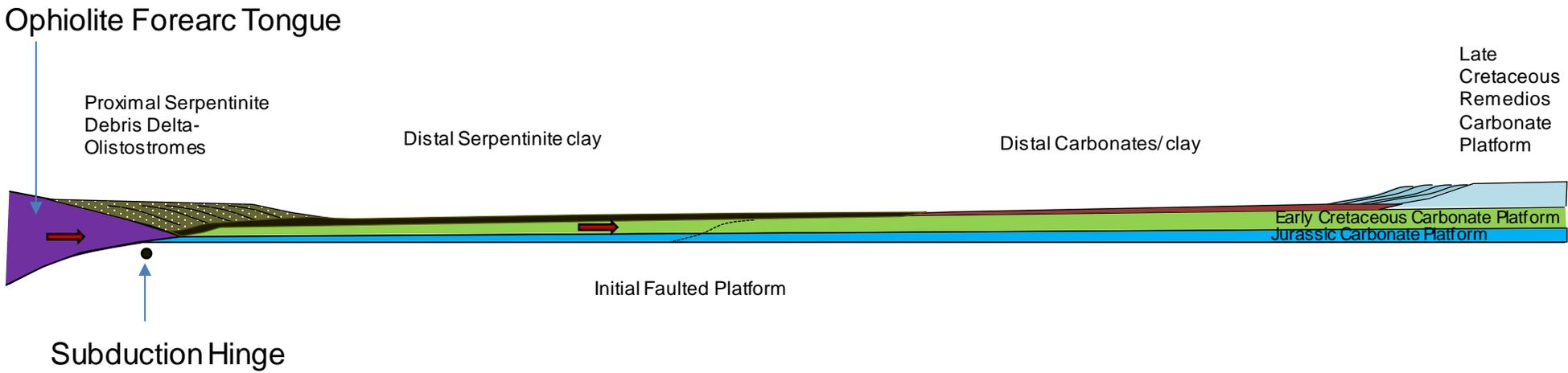


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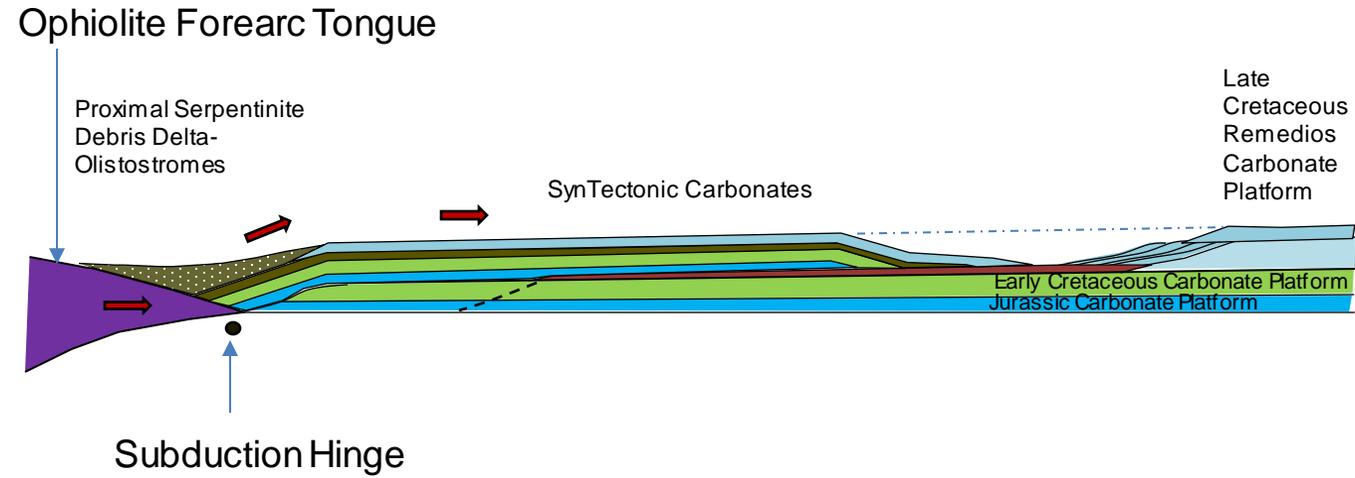
South to North Profile SHE2003-16 through Alameda and Marti 5



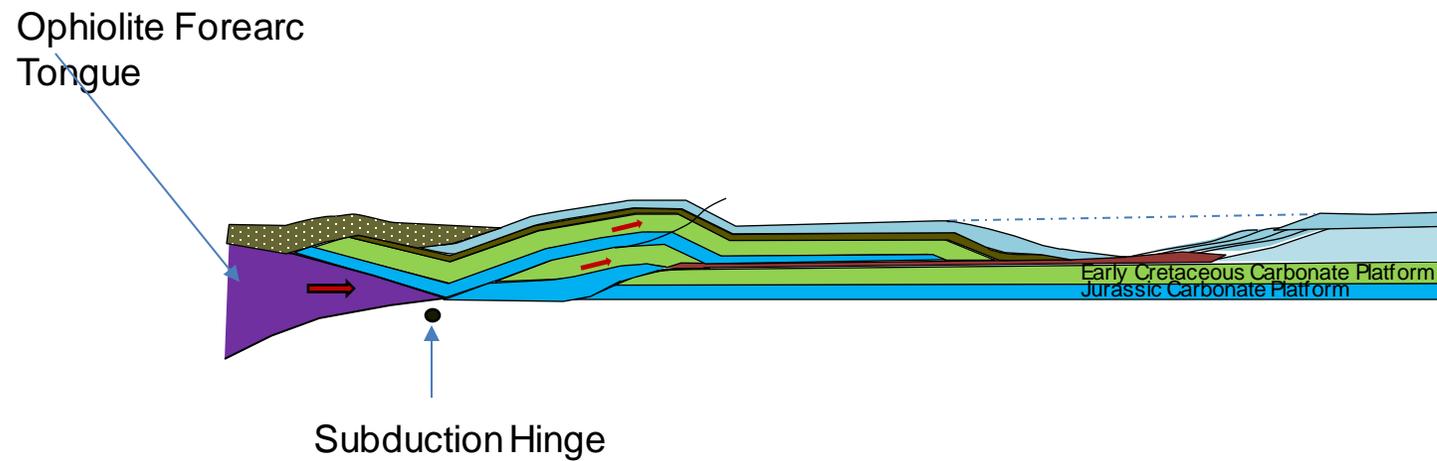
Examine Closely the Emplacement of Separate Sheets during the Collision



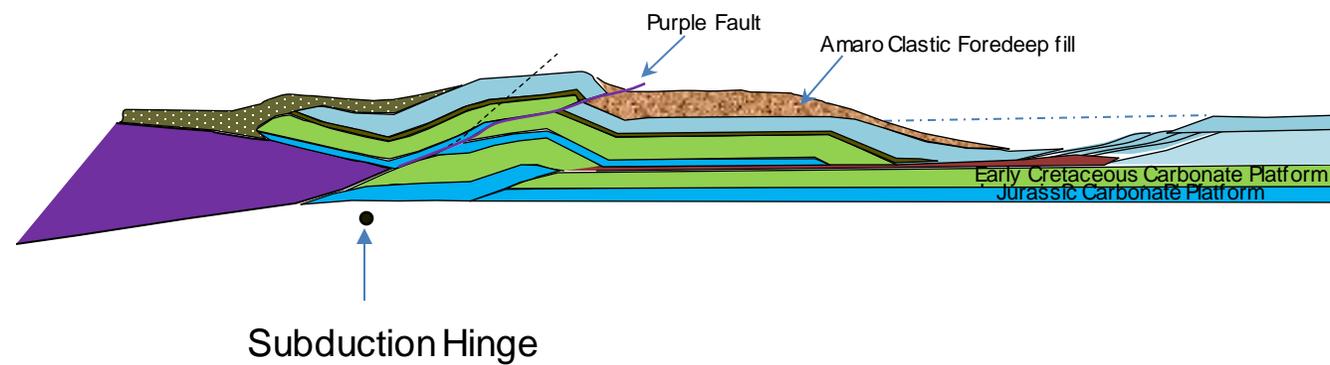
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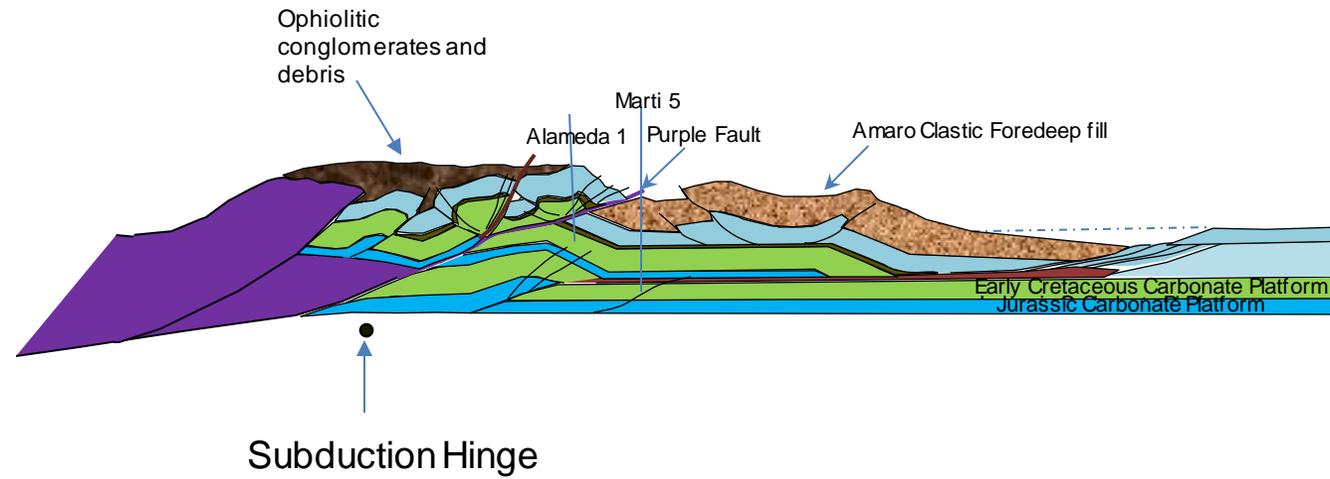
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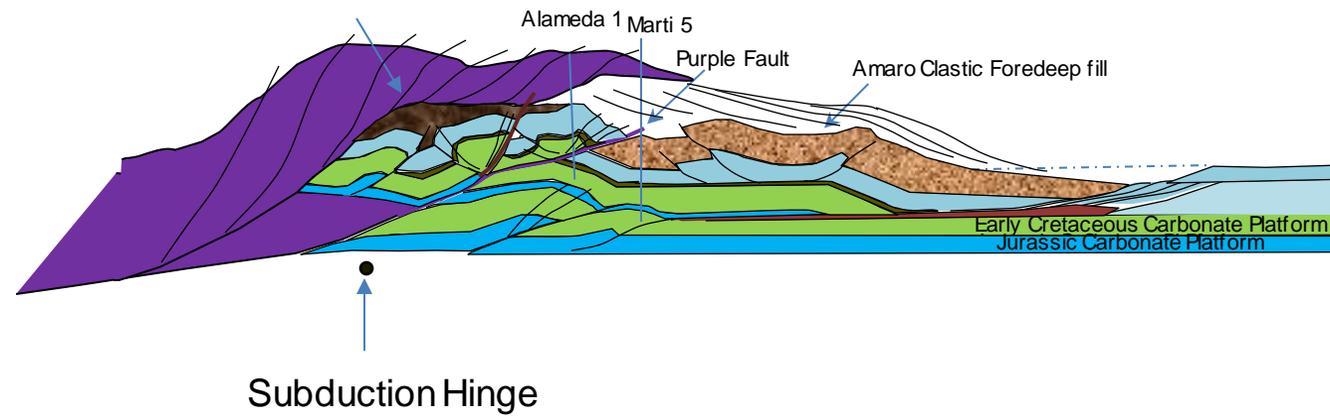
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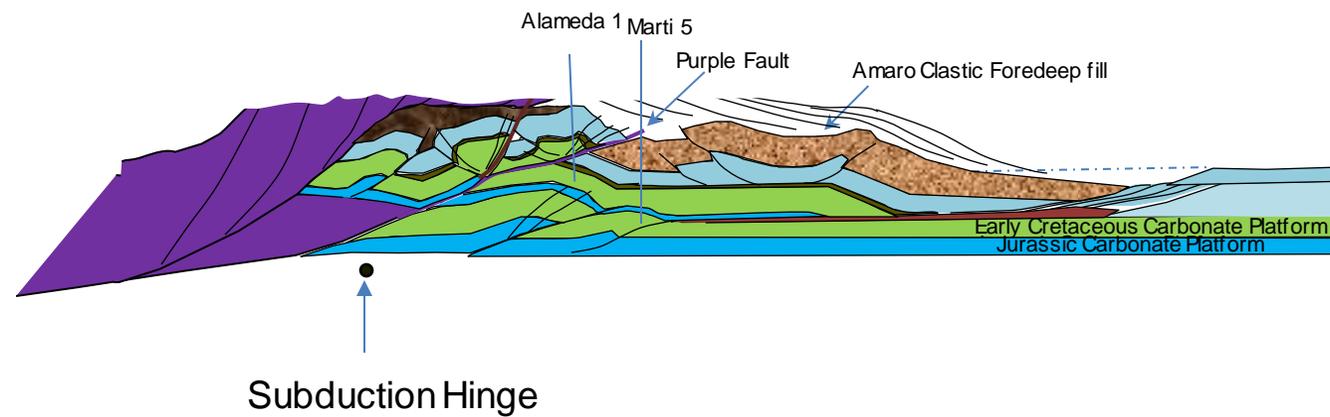
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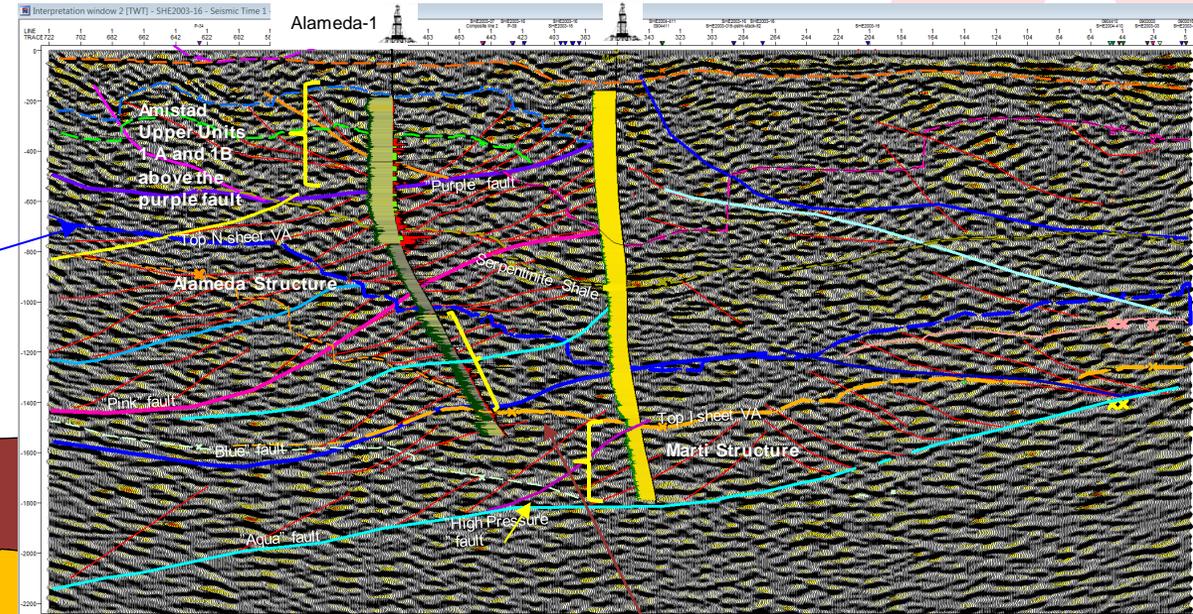


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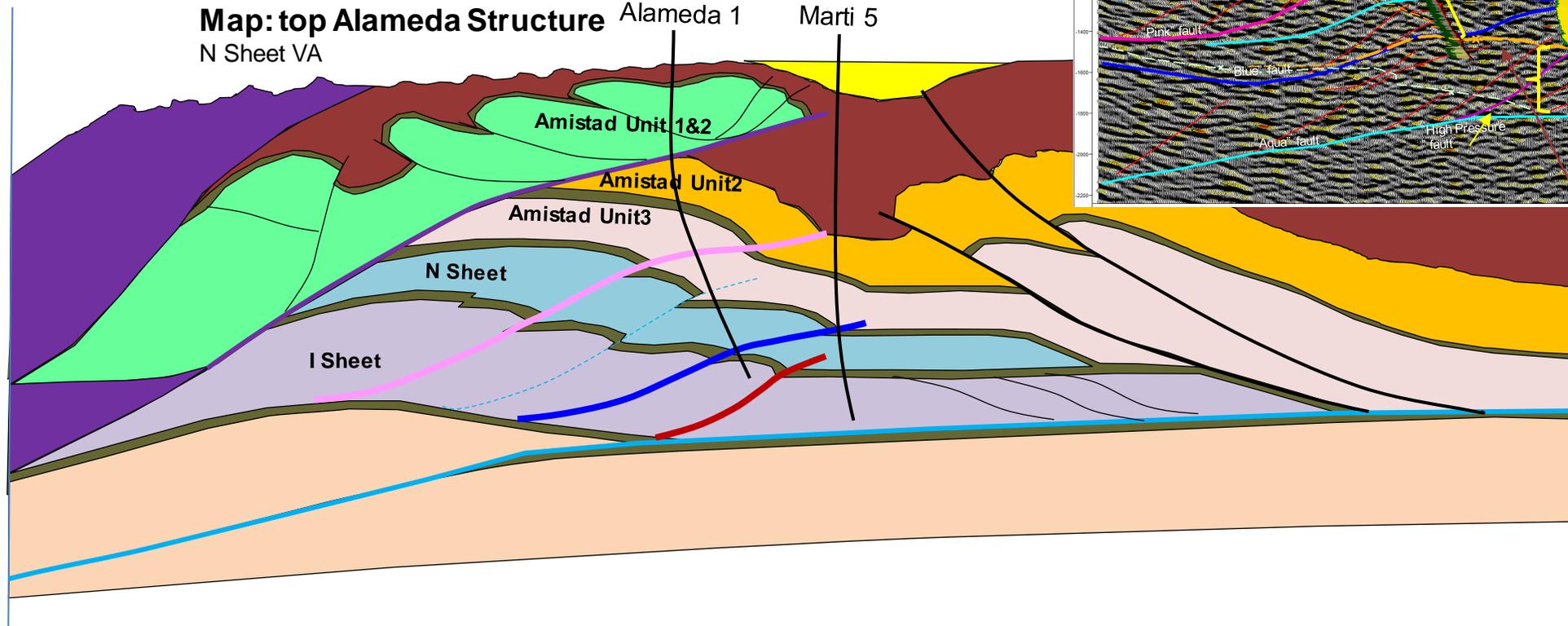


Basic Structural Model – Alameda and Marti Structures

- 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



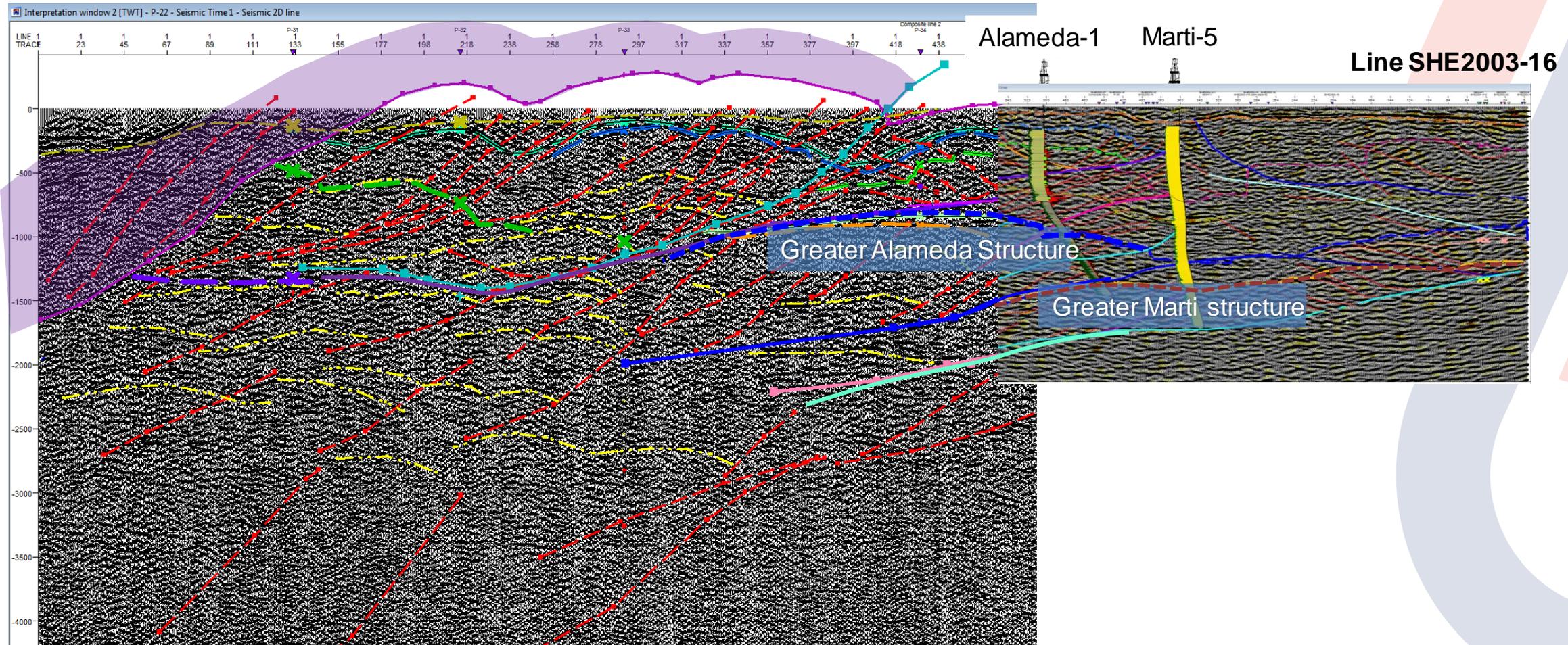
Map: top Alameda Structure
N Sheet VA



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





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