

CAYOS BASIN



A new
exploration
province

Colombia
2005
2006

Petroleum System

■ **Hydrocarbon evidence:** This is given by oil shows in wells drilled in the eastern platform and oil slicks related to basement highs.

■ **Potential Reservoirs:** Siliciclastic Eocene sediments and Miocene - Oligocene reefs. Porosity for siliciclastics could be around 25%, and 10% for reefs.

■ **Play Traps:** Structural domic; high throw normal faults. Pinch-outs and carbonate build-ups are potential stratigraphic traps.

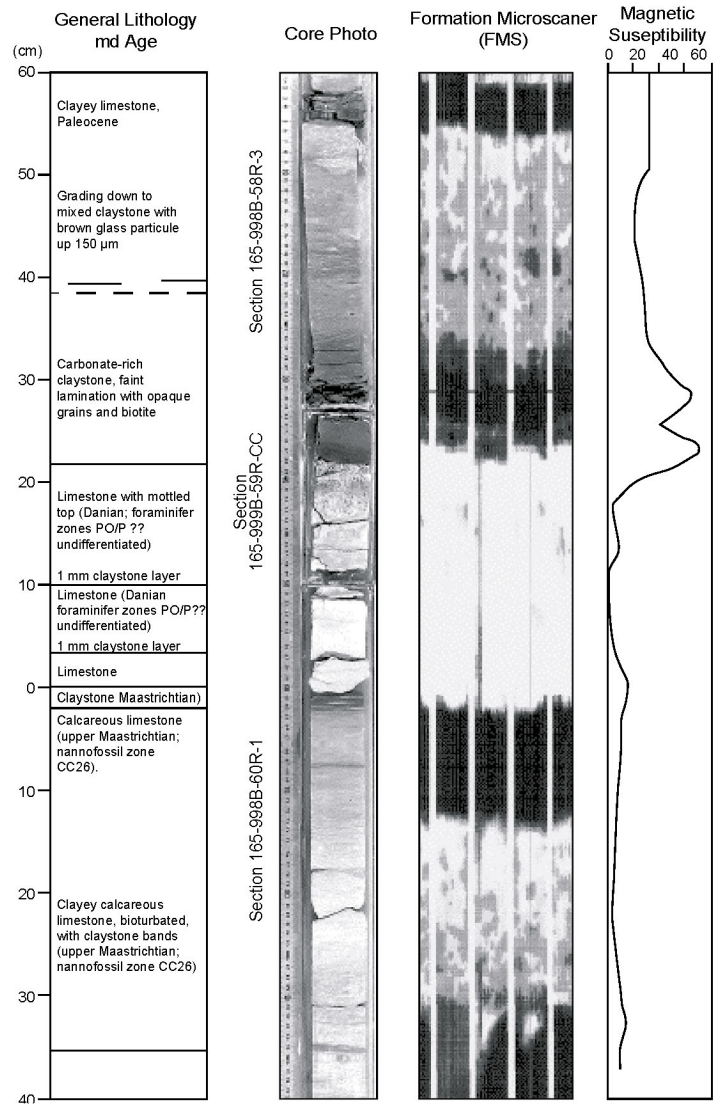
■ **Sources:** Source rocks are not well documented, but the occurrence of oil shows is an evidence of their existence.

■ **Seals:** Reported Oligocene-Miocene shales are potential seals.

■ **Migration and Timing:** unknown.

■ **Prospectivity:** No commercial hydrocarbon discoveries have been reported up to date. However, oil shows indicate exploration potential.

ODP Leg 165 - Caribbean Sea



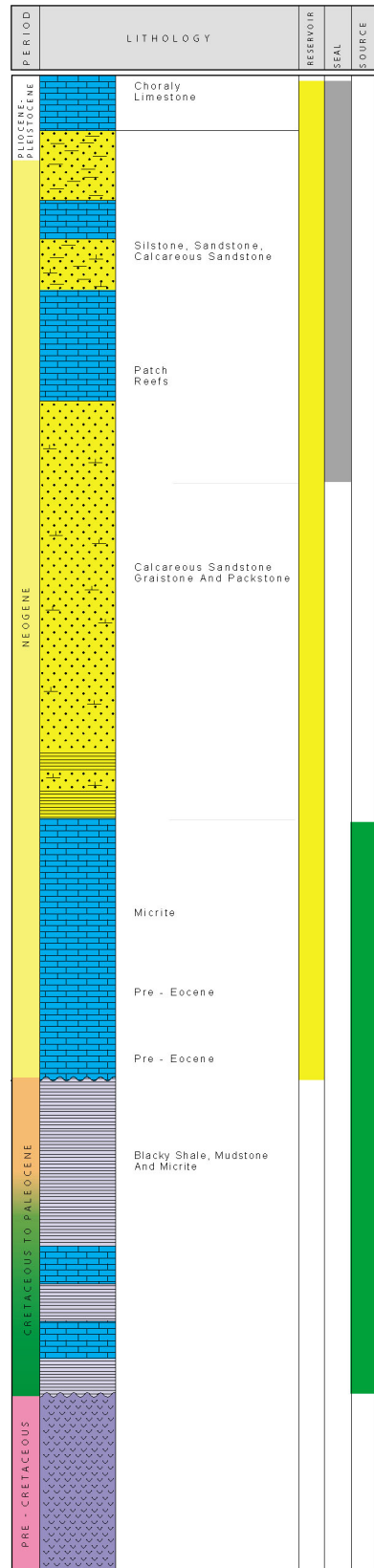
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Events Chart

Age		Eocene			Oligocene		Miocene			Pliocene-Pleistocene (PD)		
		Early	Medium	Late	Early	Late	Early	Medium	Late			
Unconformities		[Shaded area from Eocene to Miocene]										
Tectonic Events		Normal Faulting/Wicarian	Tilted Platform	Uplift, erosion and peneplanation		Deltaic Sediment		Last Tect. Deform.				
Petroleum System Elements	Source	[Green bar]	[Green bar]									
	Reservoir	[Yellow bar]	[Yellow bar]			[Yellow bar]						
	Seal	[Grey bar]	[Grey bar]			[Grey bar]	[Grey bar]					
	Overburden				[Brown bar]			[Brown bar]	[Brown bar]	[Brown bar]		
Petroleum System Processes	Trap Formation	Reefs	[Blue bar]									
		Faulted Blocks	[Red bar]									
		Anticlines							[Brown bar]			
	Generation Expulsion and Migration										[Blue bar]	

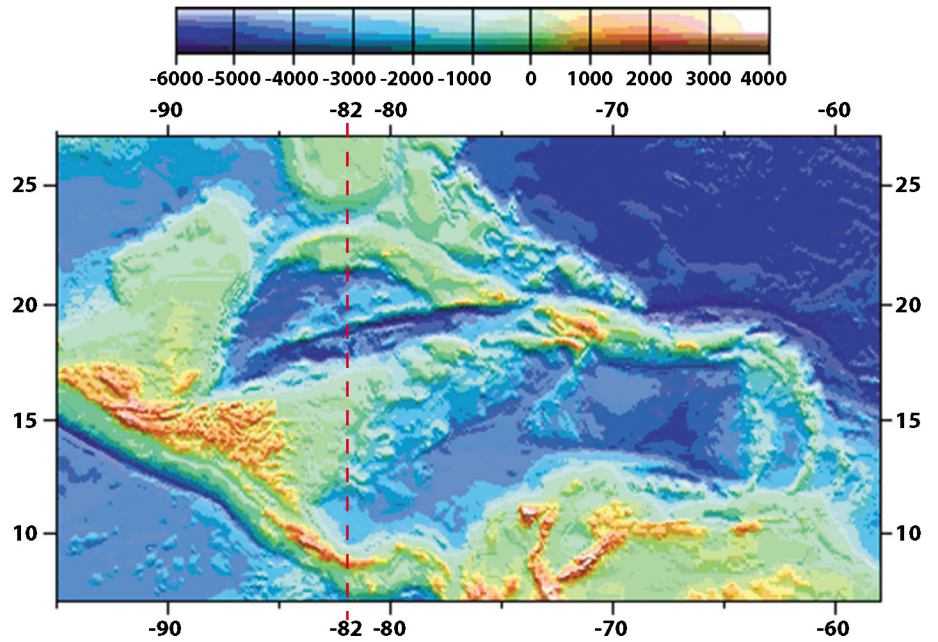
From Munar, F., 2002

Speculative Petroleum System



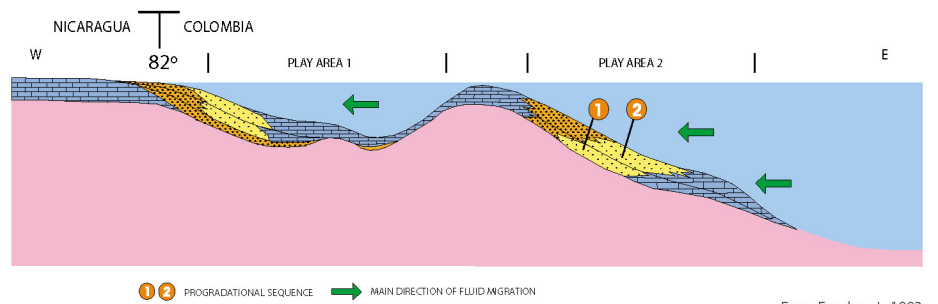
From Escobar, J., 1993

Bathymetry



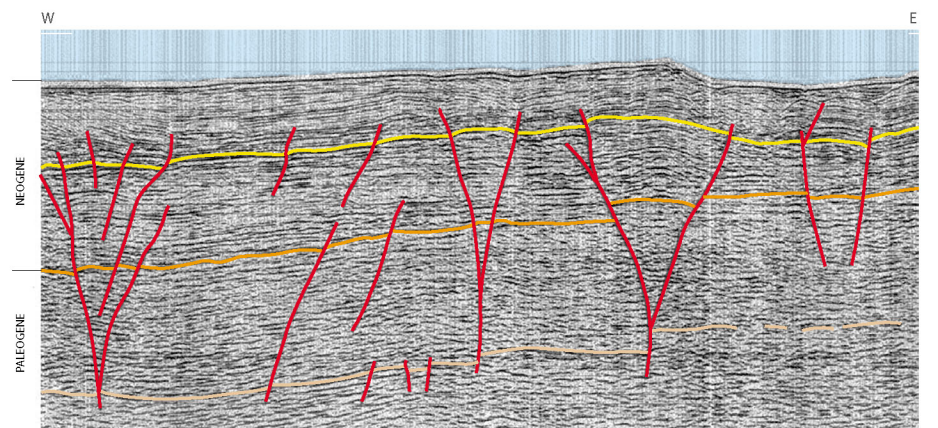
From: <http://www.ig.utexas.edu/>

Sedimentary Model / Stratigraphic Plays



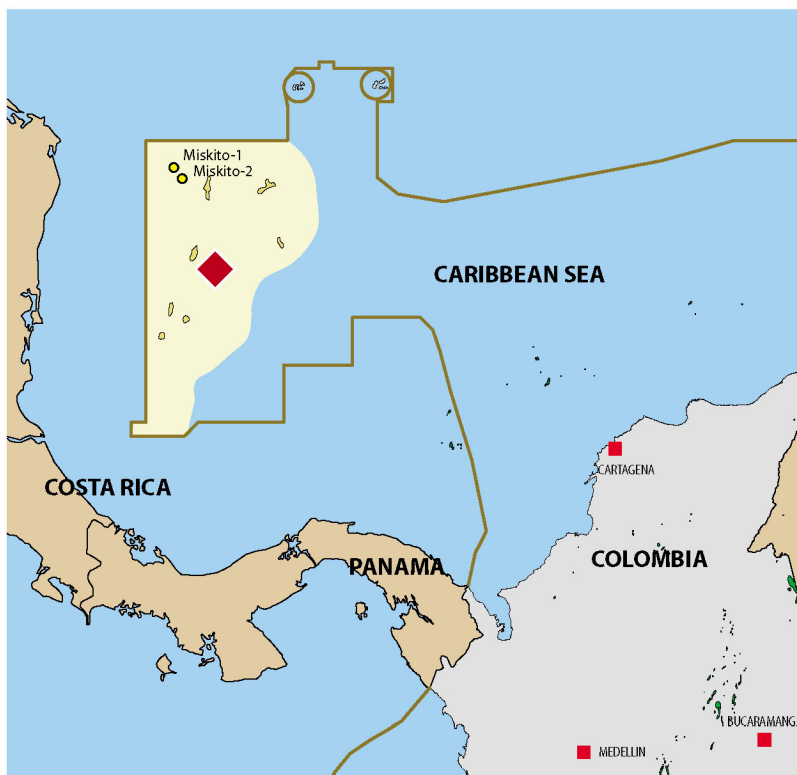
From Escobar, J., 1993

Structural Traps / Transpression



From Barrero, D., 1998

Basin Location



Note: Basin eastern boundary corresponds to the 2,000m isobath.

Basin Location

Colombia has an area of 589,560 km² in the Caribbean Sea. The basin covers an extension of 73,500 km² (18,160,000 acres).

The San Andrés and Providencia archipelago, is located 770 km North-West of the Colombian mainland. It is comprised of the islands of San Andrés, Providencia and Santa Catalina.

HIGHLIGHTS

◆ ANH Projects **Aeromagnetic, Aerogravity and Bathymetric Surveys
3,000 km Seismic 2D lines**

Area **73,500 km²
18,160,000 acres**

Oil field discovered **None**

Exploratory wells **2**

Discovered Oil Reserves **None**

Exploratory Well Density **36,750 km² / well**

Basin Type **Transpressional Basin**

Produced by Geoconsult Ltda

Manager: Nelson Álvarez

Technical Director: Darío Barrero

Geologists: Yolanda Aguiar, Alfonso Robledo, Camilo Hernández, Juan Fernando Martínez, Oliverio Rojas, Edwin Valencia and Mercedes Álvarez

Petroleum Engineer: Yolanda Ojeda

Design Mantis Estudio

Cover Picture
Ecopetrol S.A.



Agencia Nacional de Hidrocarburos
República de Colombia

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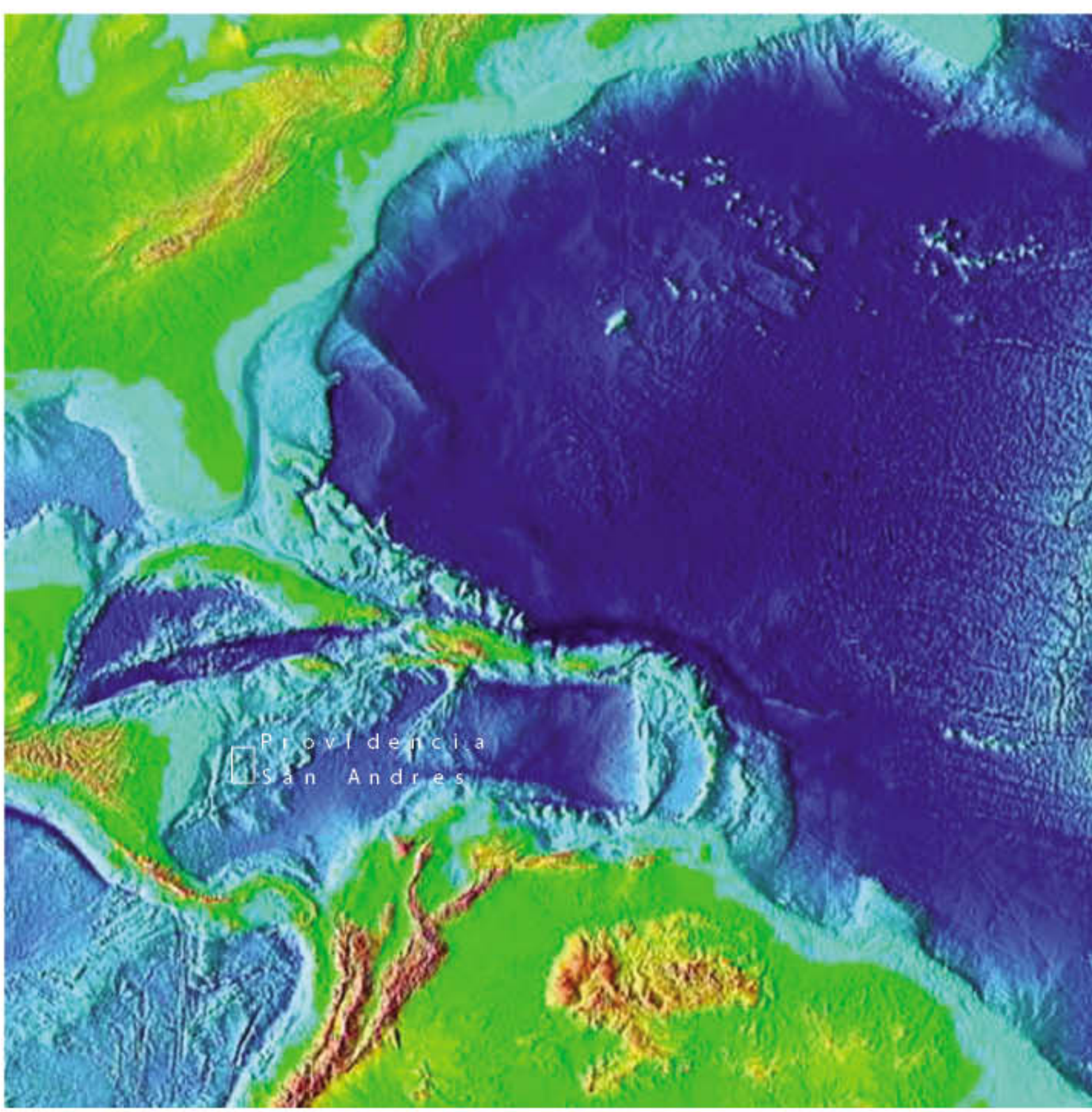
Cayos Basin

Unexplored
transpressional basin



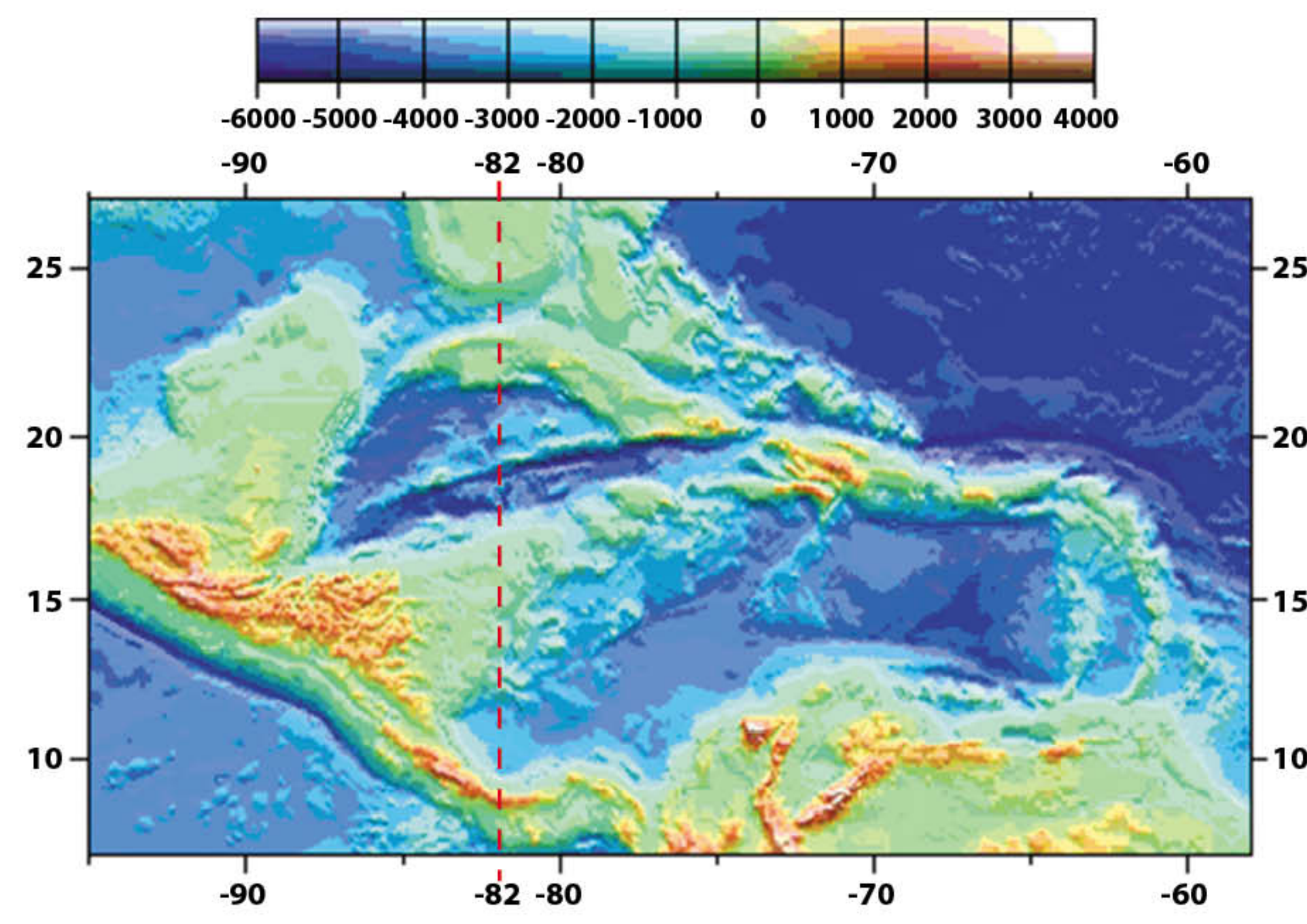
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General Location



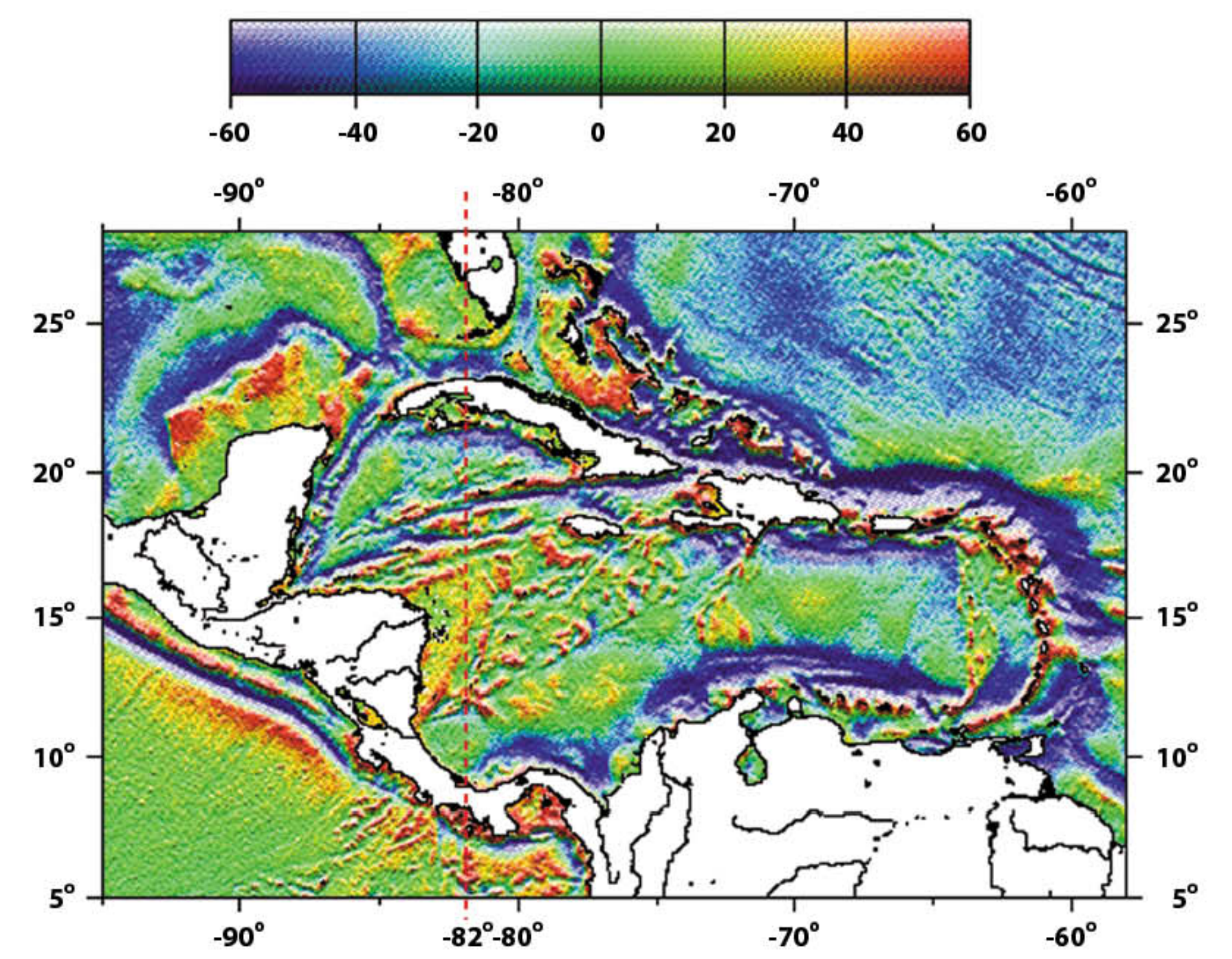
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Bathymetry



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Free Air Gravity Map



From: <http://www.ig.utexas.edu/>

Highlights

◆ ANH Projects | **Aeromagnetic, Aerogravity
and Bathymetric Surveys**
3,000 km 2D Seismic

Area | **73,500 km²**

| **18,160,000 Acres**

Oil Field Discoveries | **None**

Exploratory Wells | **2**

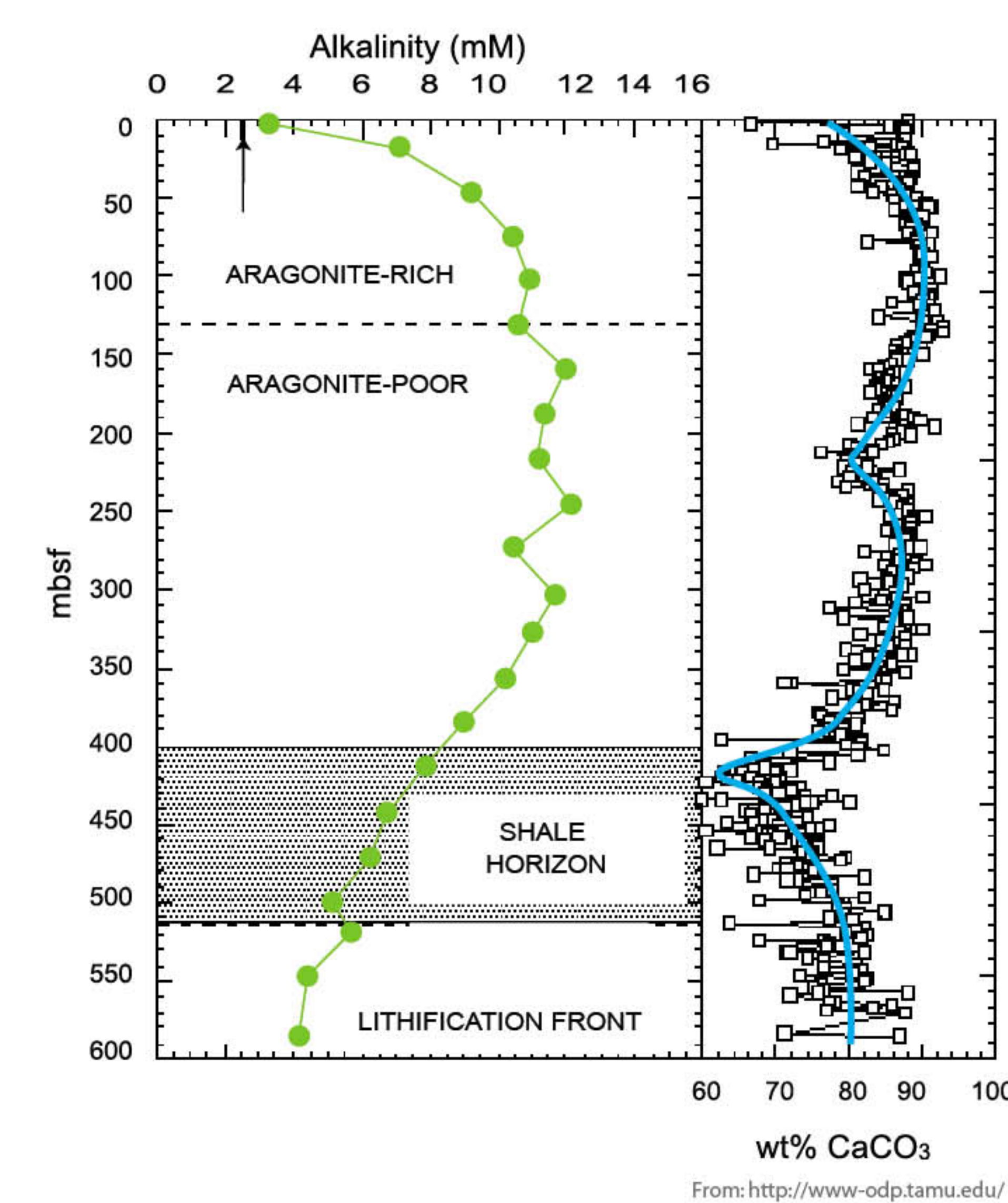
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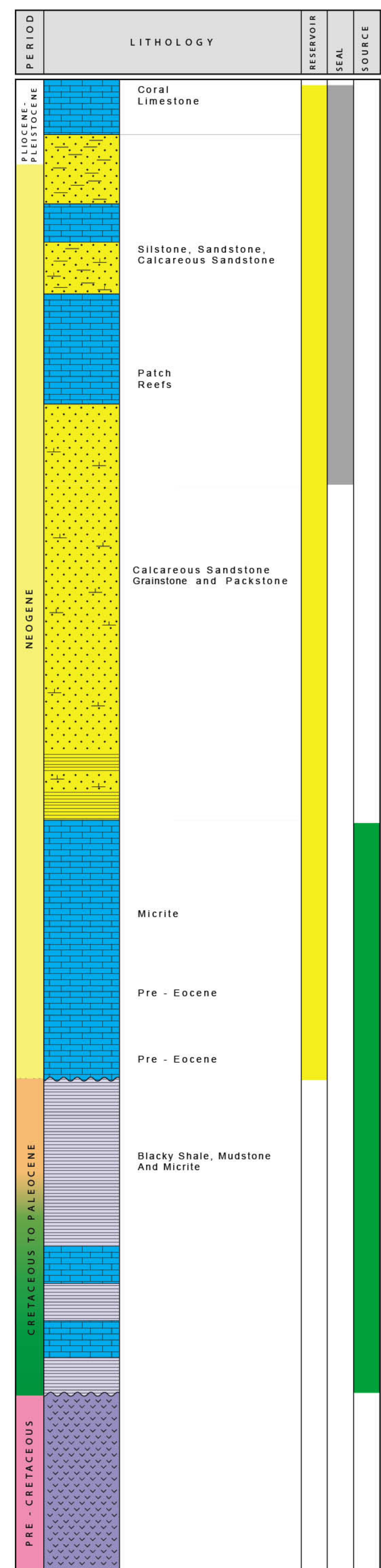
Basin Type | **Transpressional Basin**

Speculative Petroleum System (?)

SITE 1000



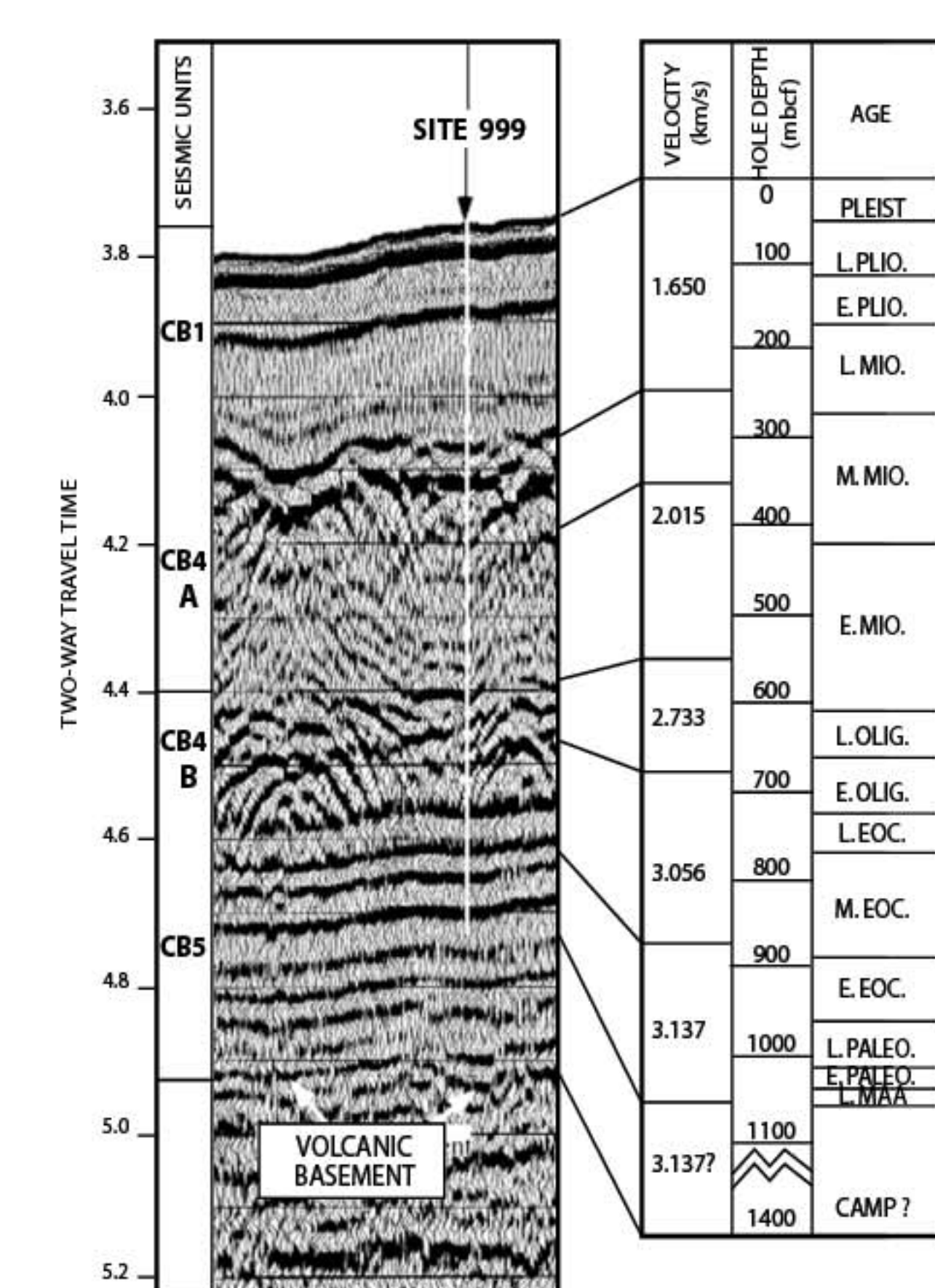
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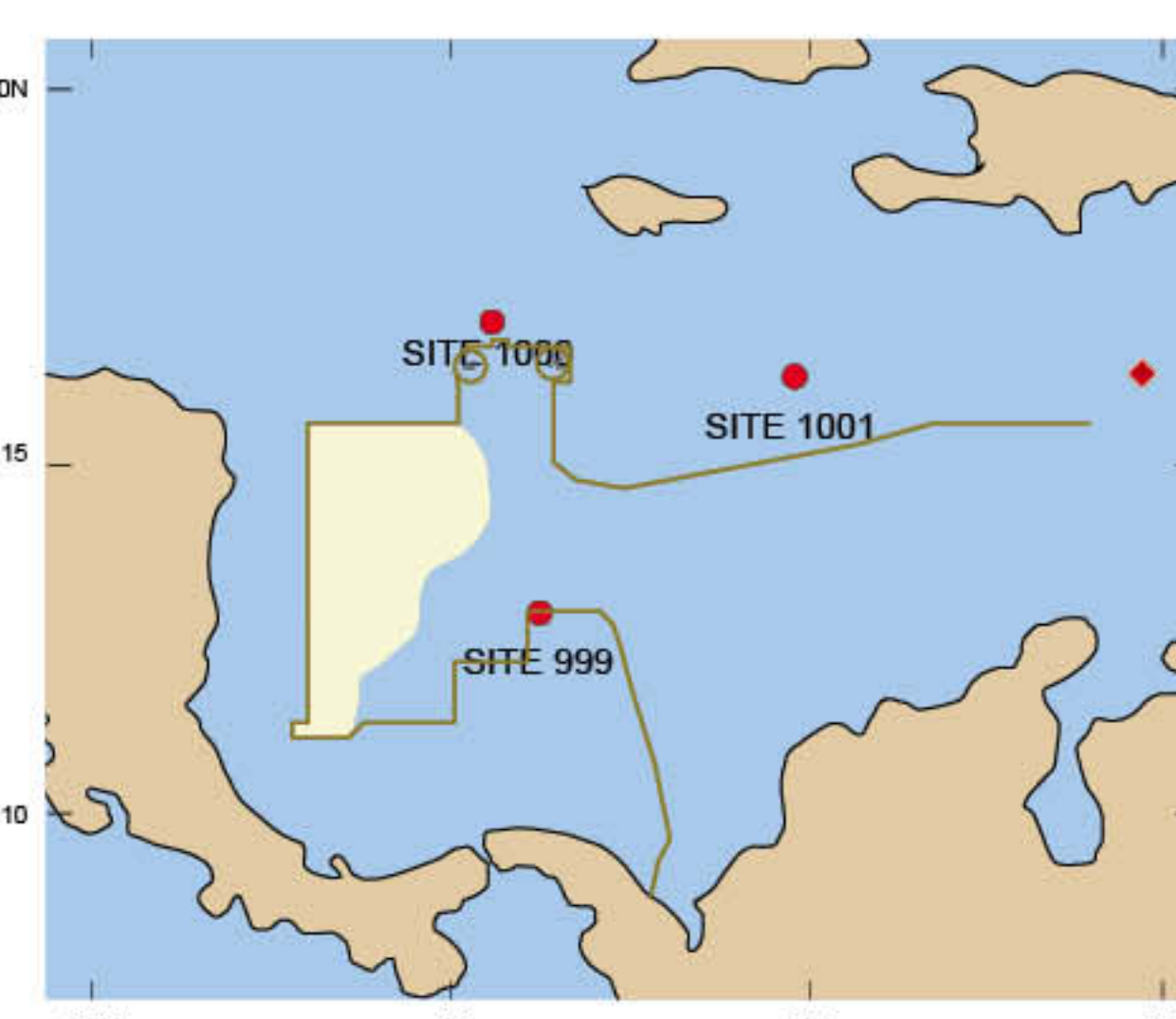
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ODP Leg 165 - Caribbean Sea

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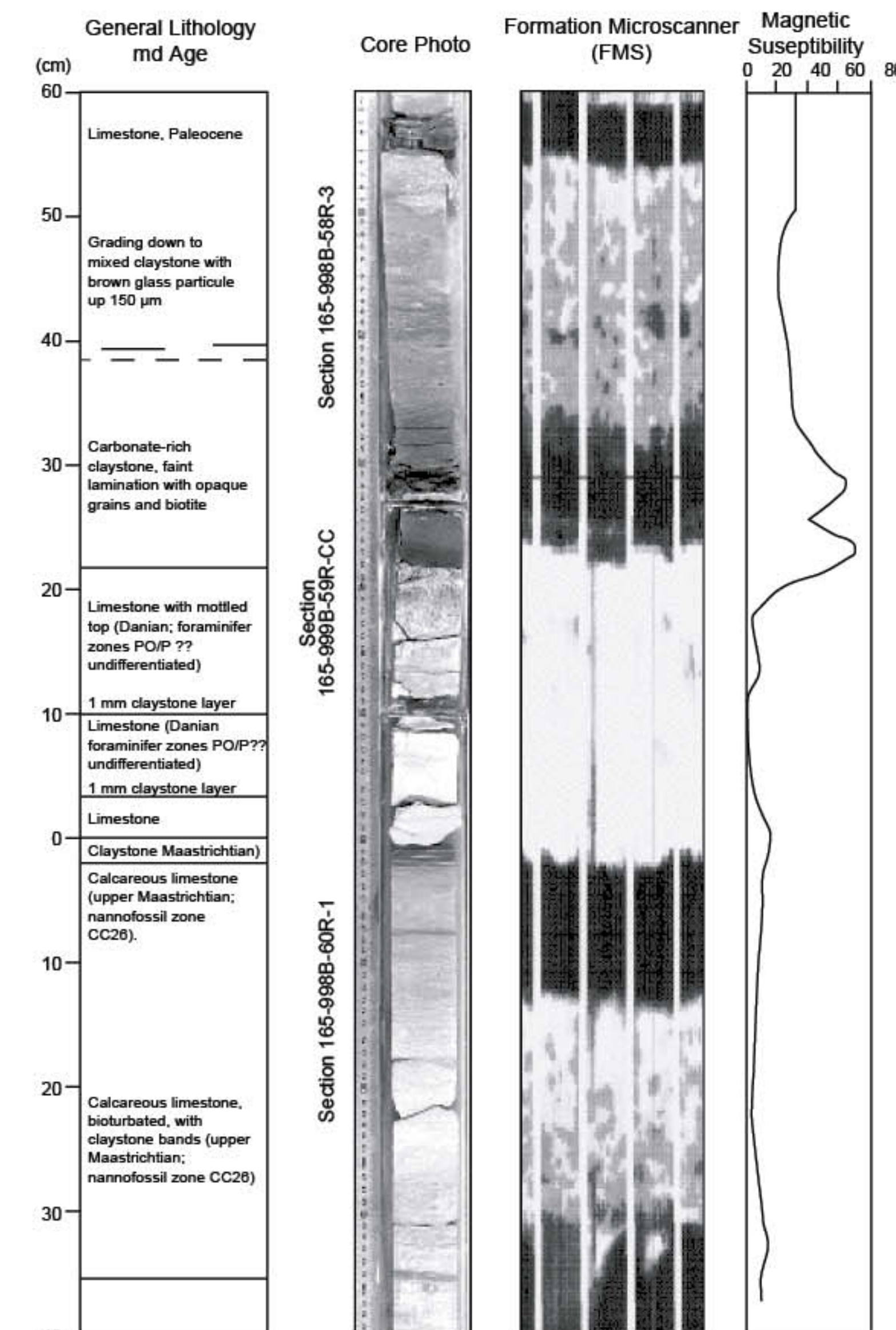


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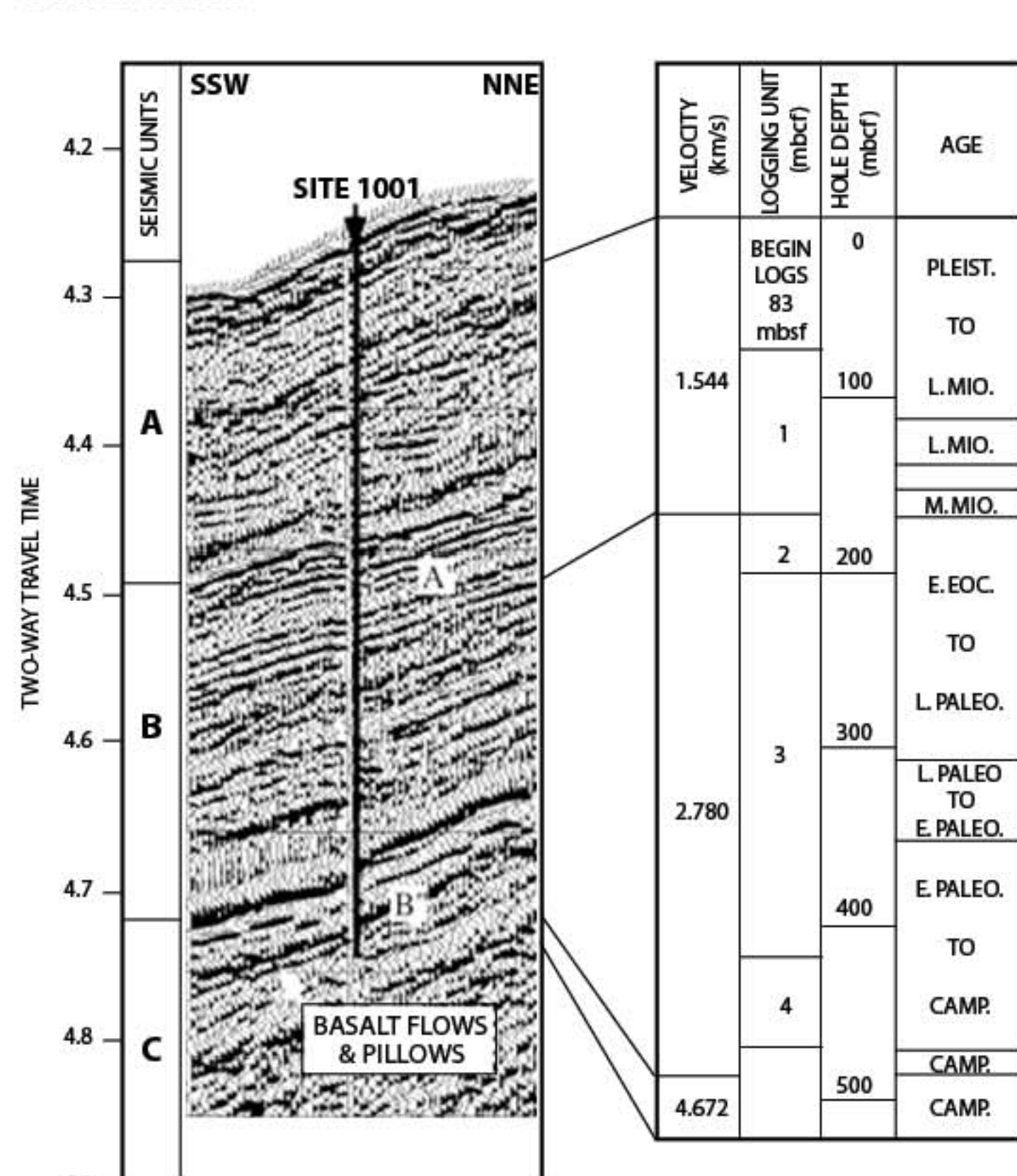
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SITE 1001



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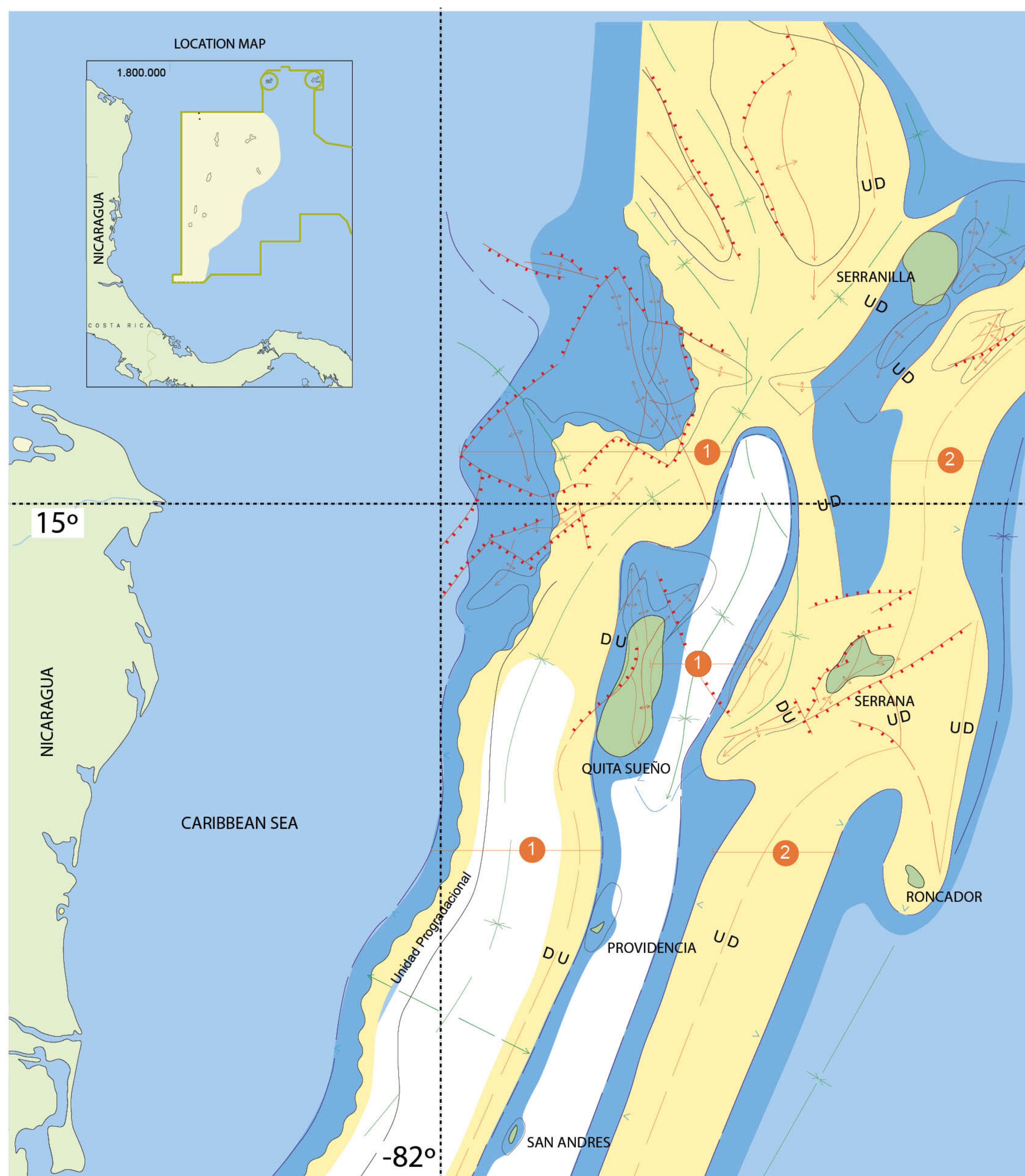
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Colombia
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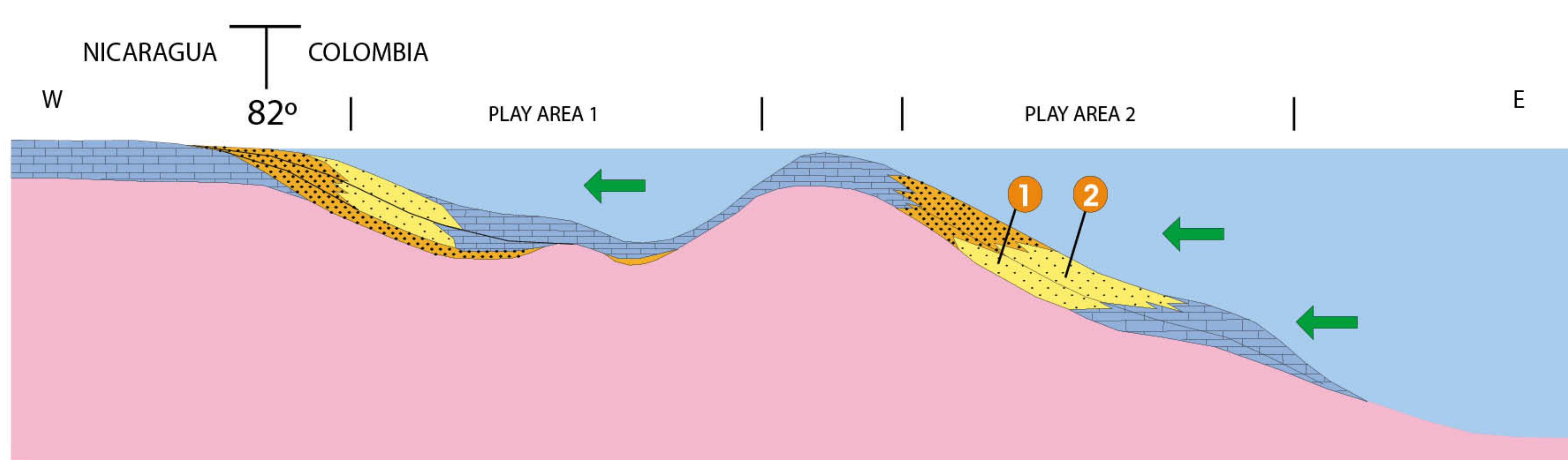
Unexplored transpressional basin

Postulated Plays



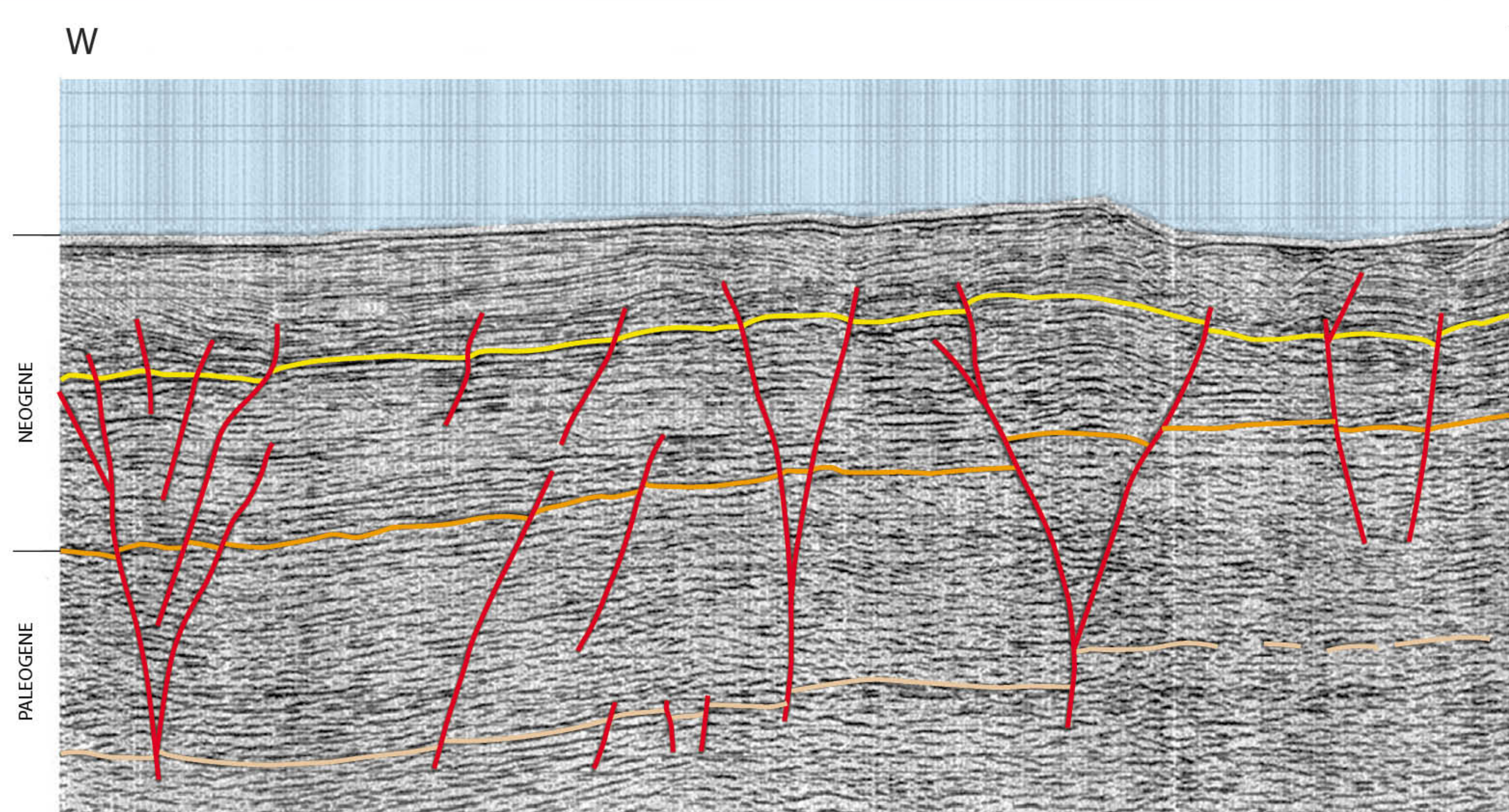
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