



# EQUATORIAL GUINEA

## EXPLORATION STATUS

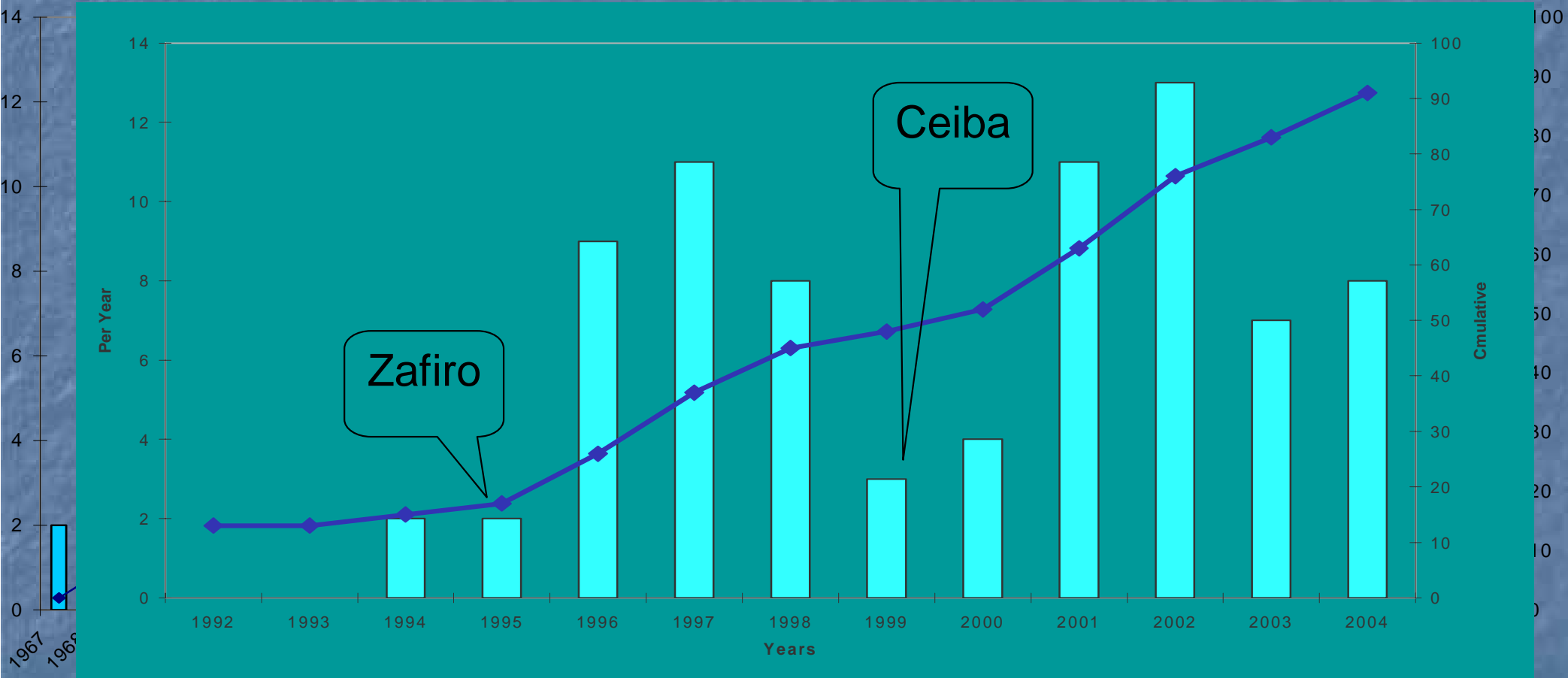
**Alan Soulsby,**

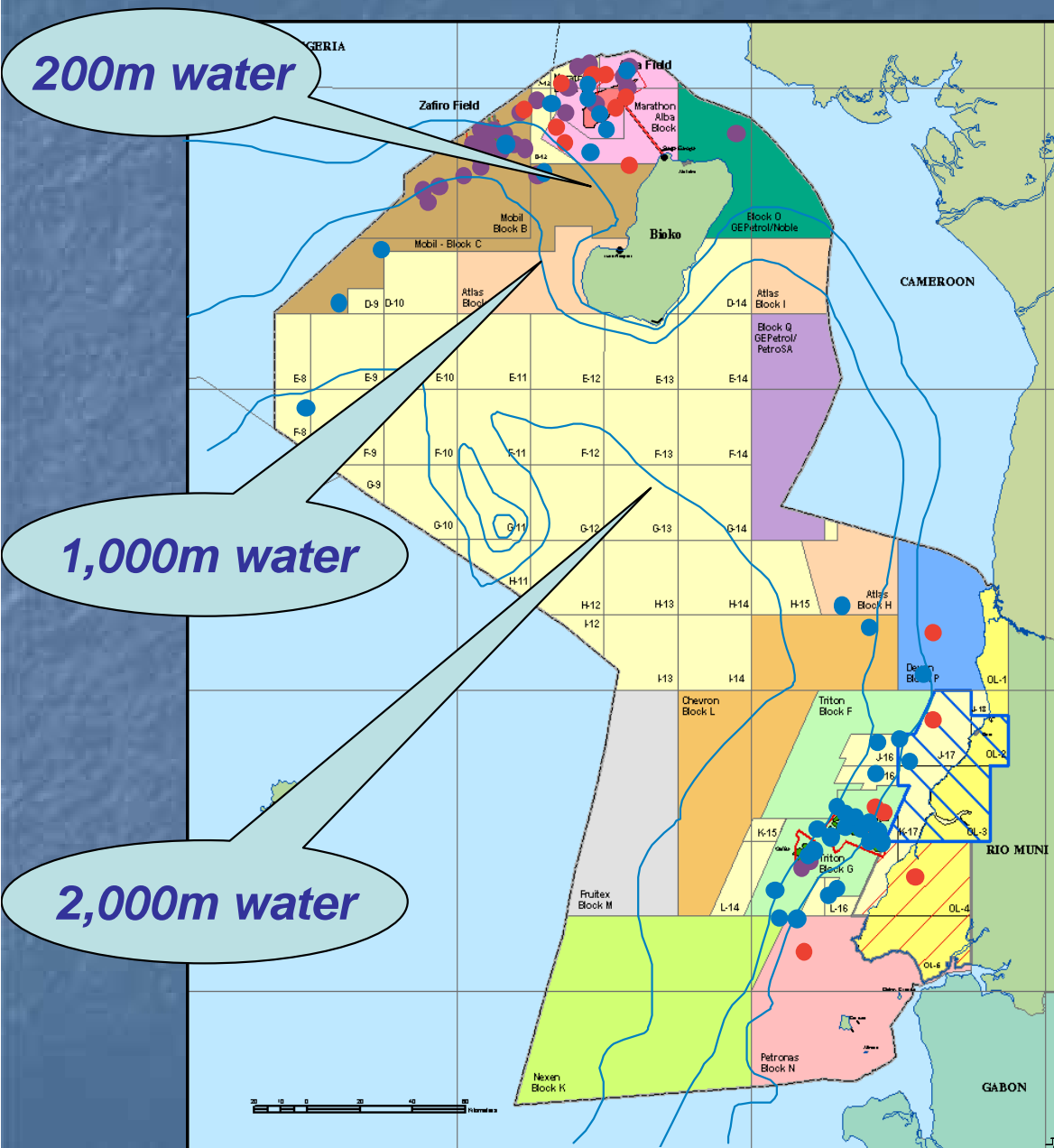
Director, ECL and Advisor to Ministry of Mines,  
Industry & Energy

Kuala Lumpur, March 2005



# EXPLORATION DRILLING HISTORY





# WELLS DRILLED

## TO 1992.....

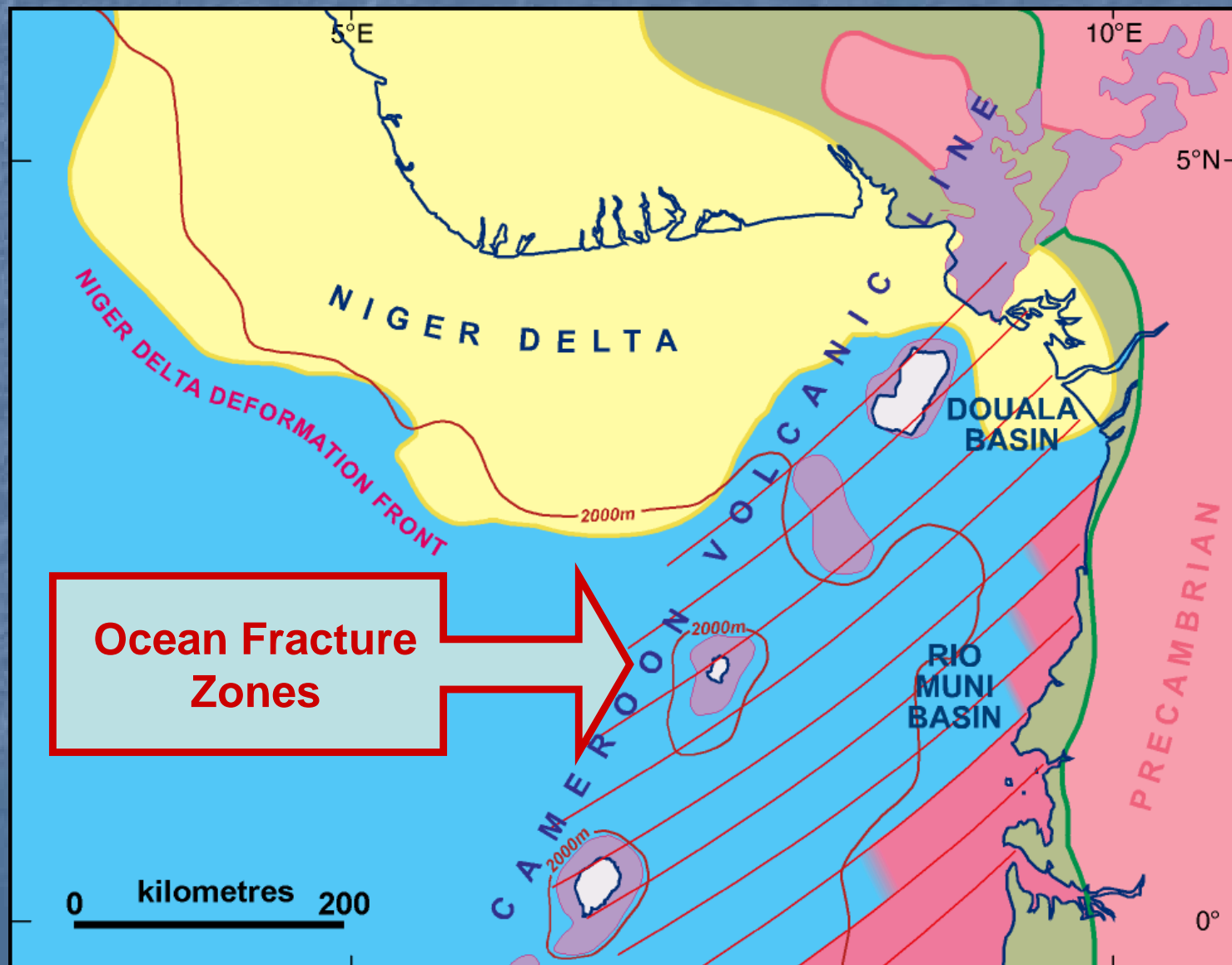
Drilling from 1967 within the 200m isobath found the Alba condensate discovery which was deemed non-commercial.  
 13 wells in Niger Delta  
 6 wells in Rio Muni

## 1992-99.....

Exploration on Zafiro trend to the 1,000m isobath (33 wells).  
 Ceiba Field discovered 1999.

## 1999-2004.....

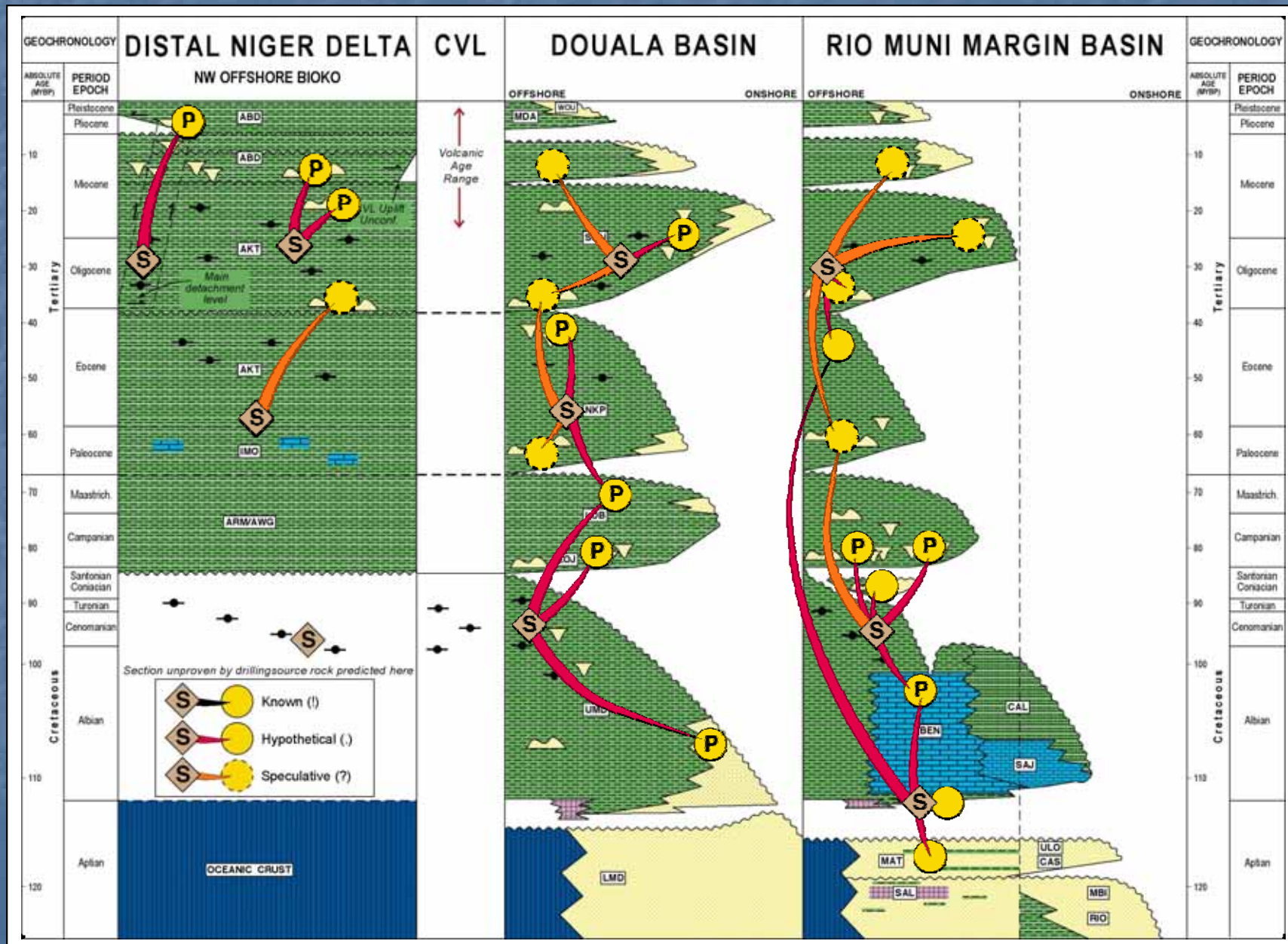
Exploration extended westwards along the Niger Delta Deformation Front (3 wells) beyond 2,000m isobath and around Alba (10 wells) but mostly along and inboard of the Ceiba Trend (31 wells)



## Regional Structural & Basin Framework

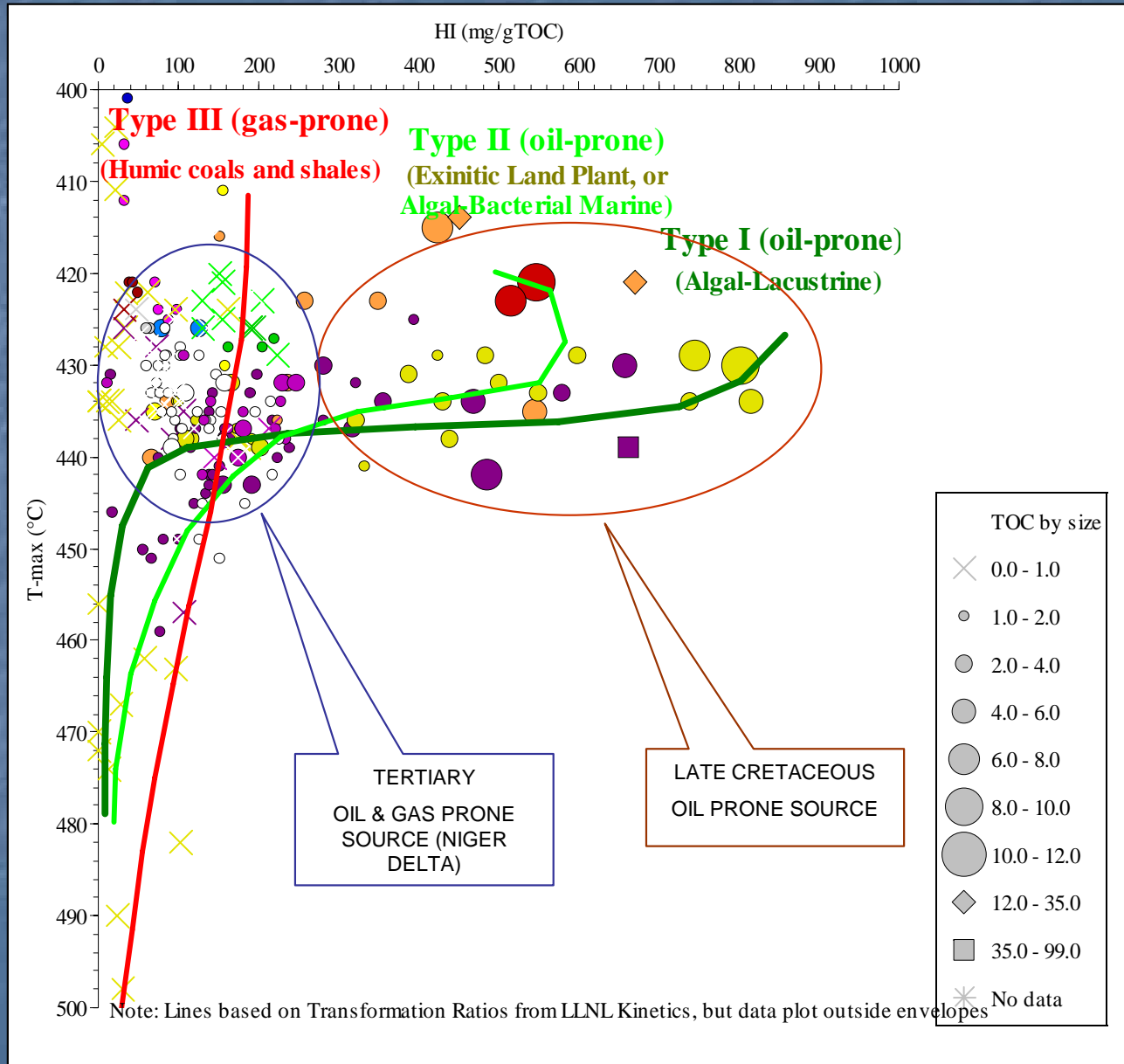


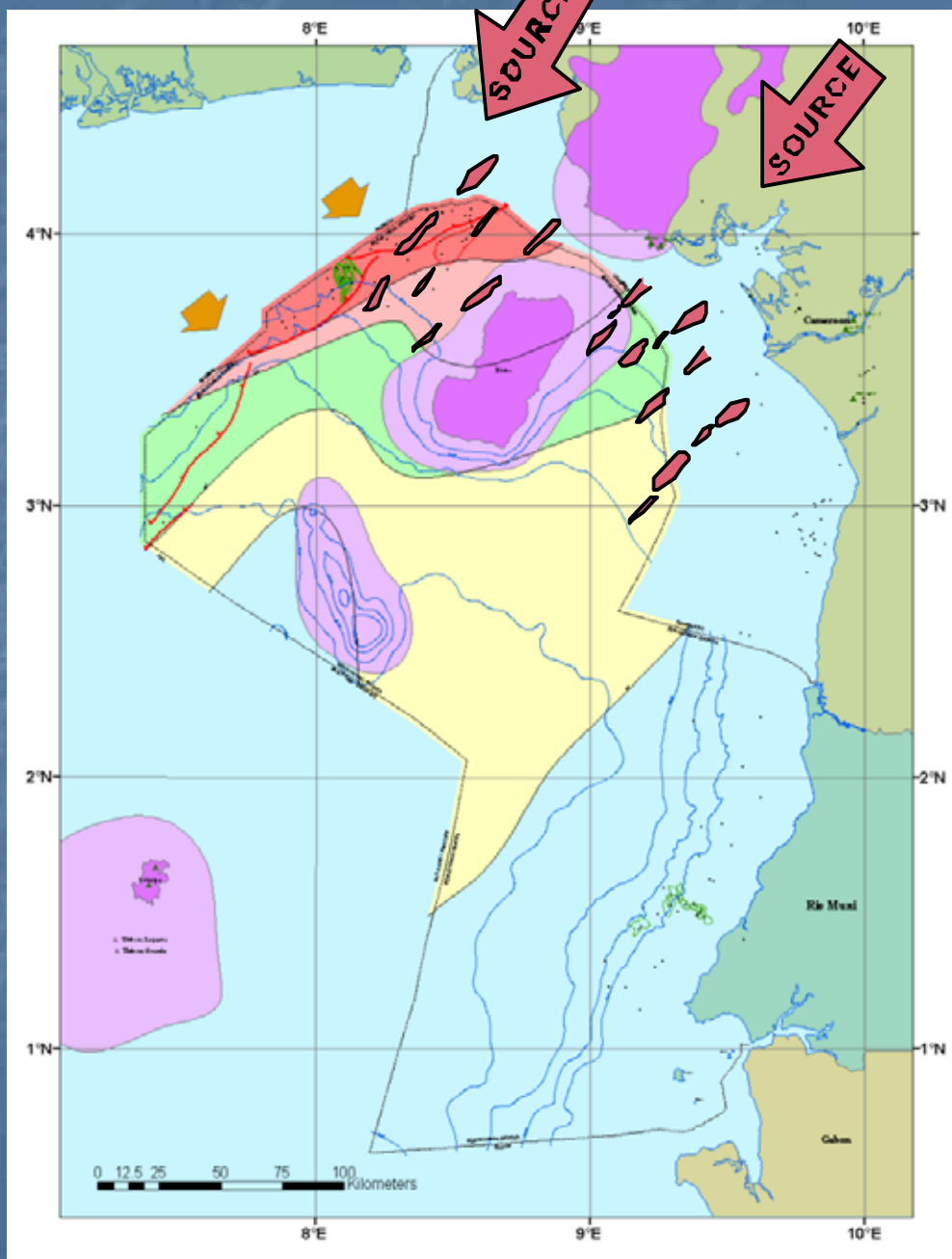
# PETROLEUM SYSTEMS





# SOURCE QUALITY





## Late Tertiary Play

Oligo-Miocene source mature towards and under Niger Delta thrust front

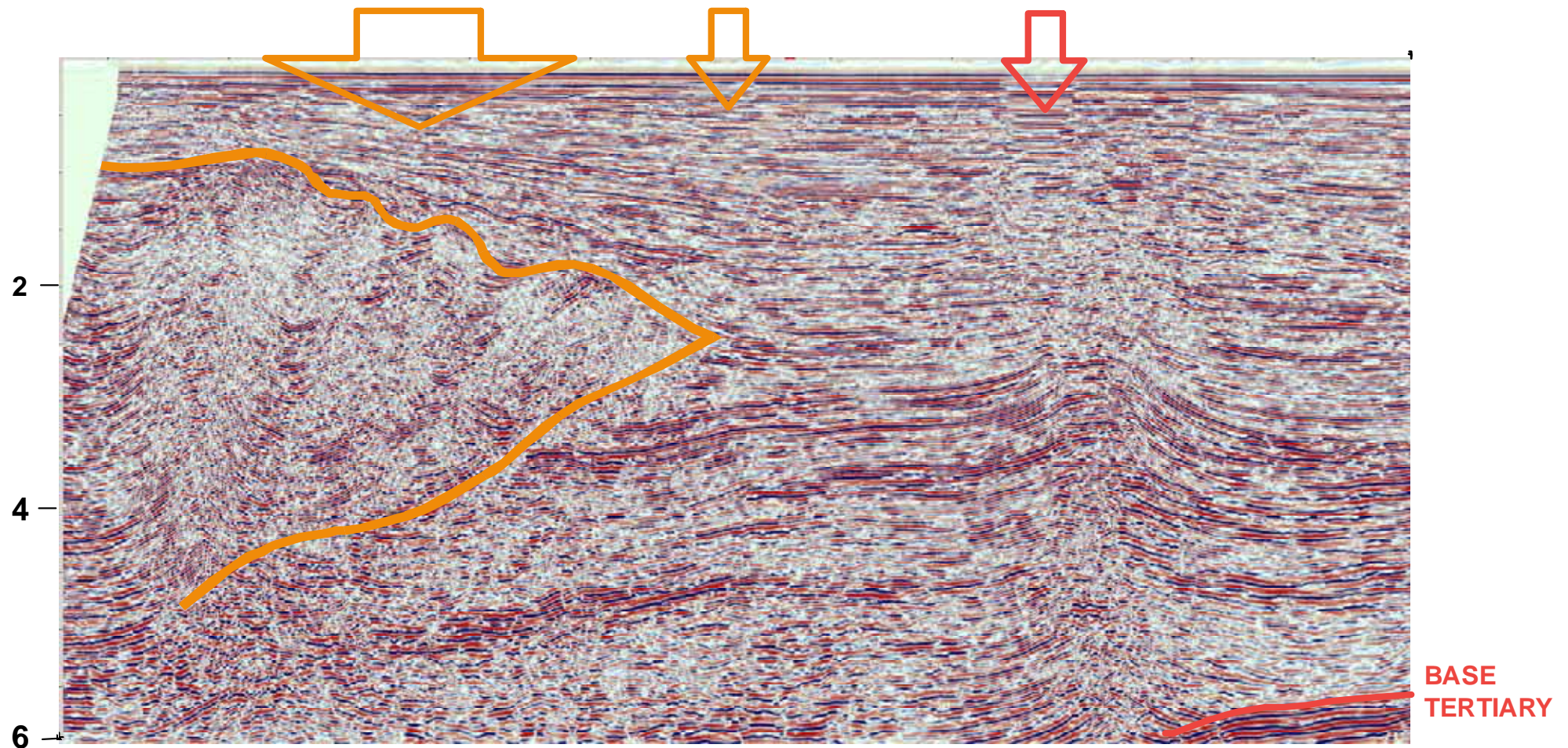
Miocene fan and channel sands provide excellent reservoirs, derived from north-east

Pliocene canyon systems sourced from north and north-west

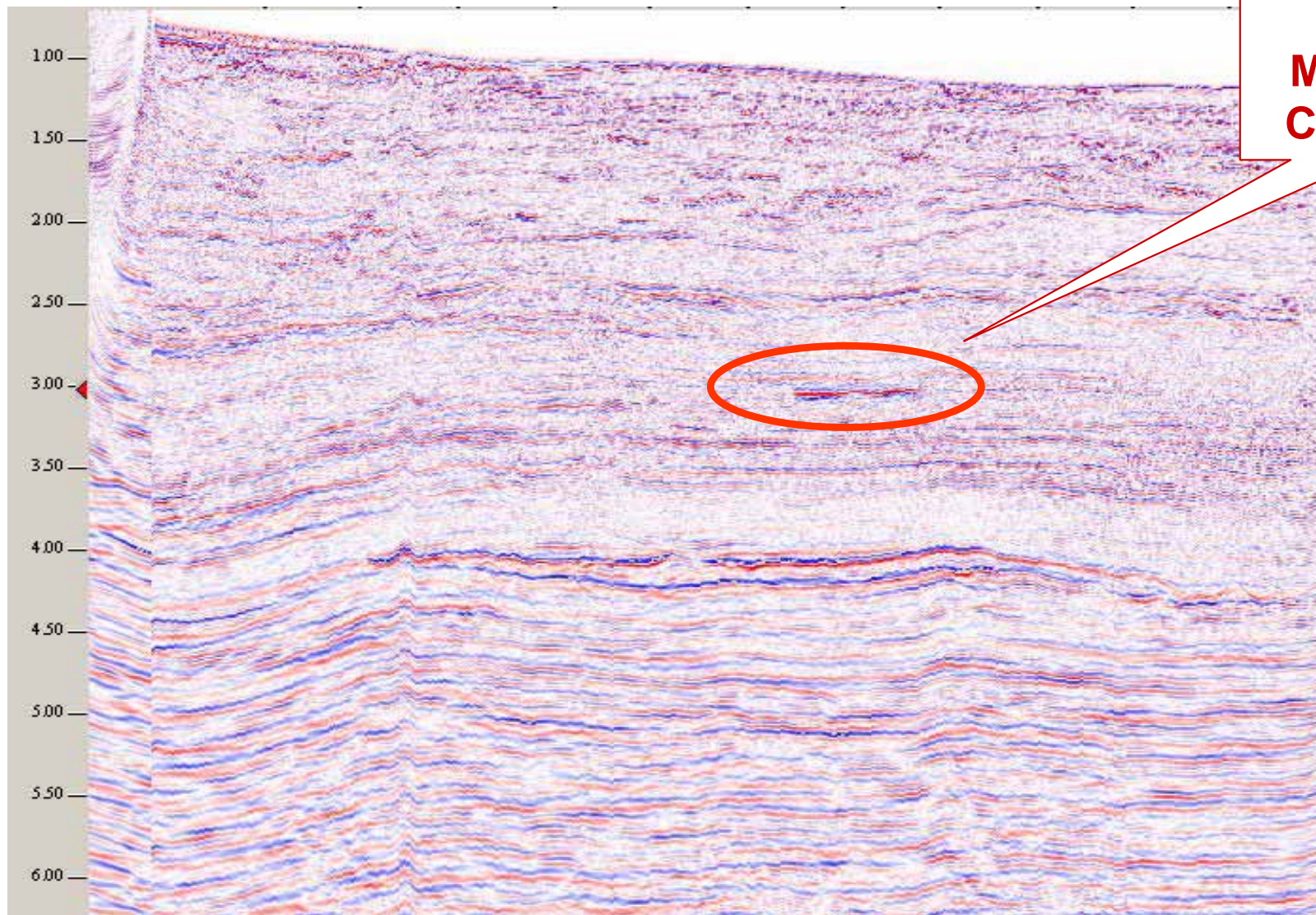
Around 2.5 billion boe discovered

PLIOCENE  
CHANNELSNIGER DELTA  
FRONT

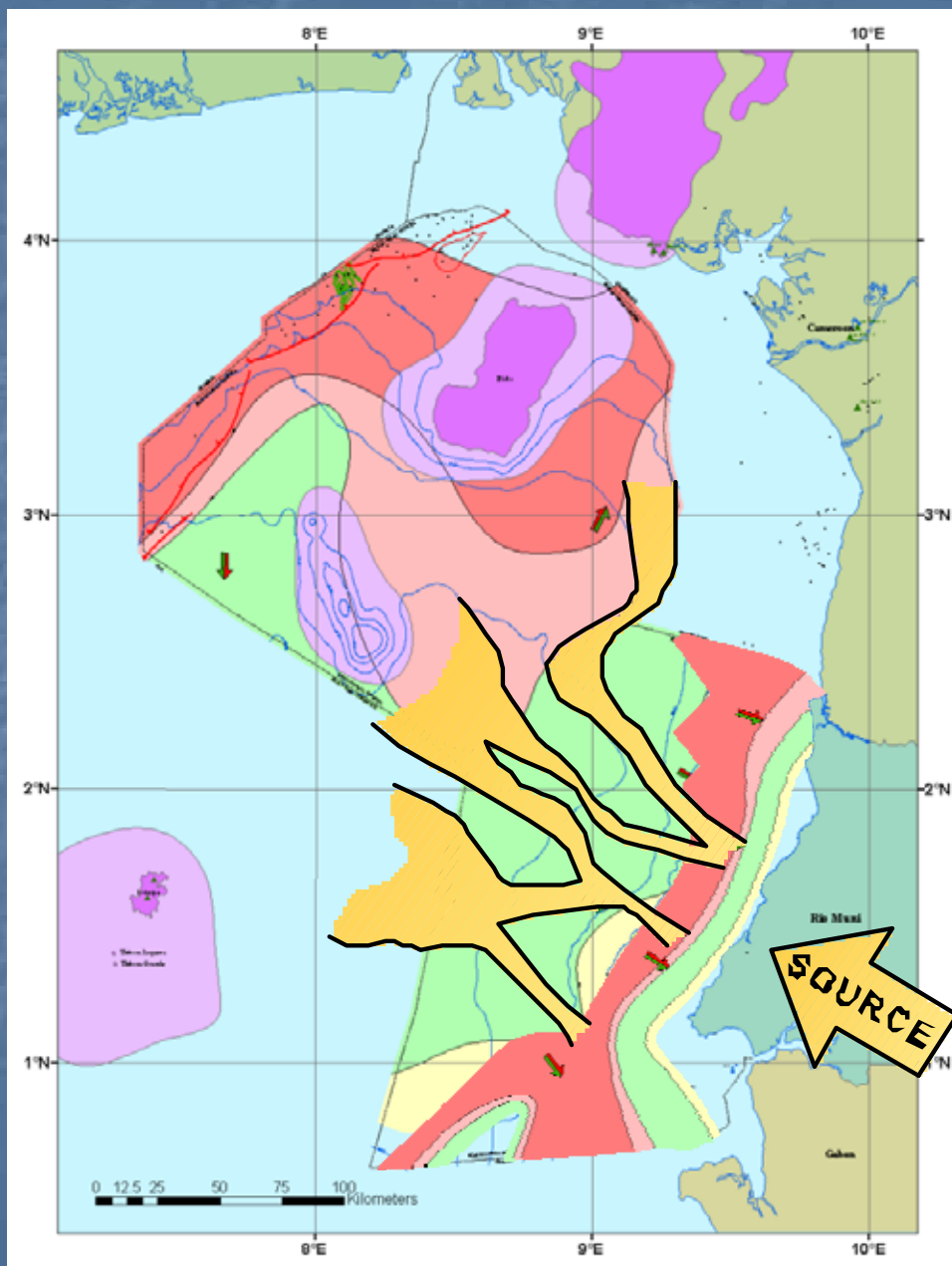
ALBA







*Data courtesy of GESeis and Atlas Petroleum*



## Cretaceous Play

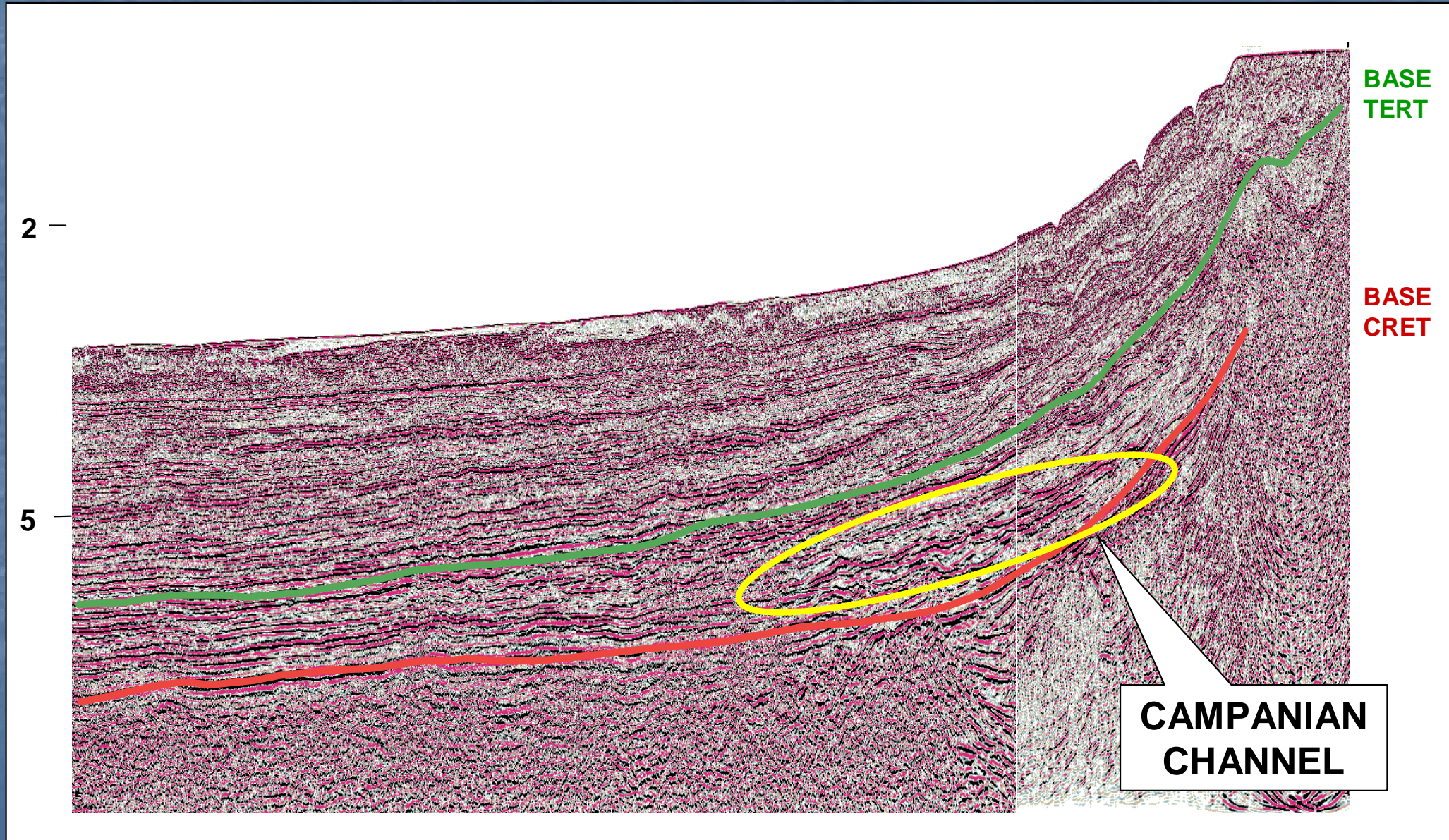
Apto-Turonian source mature in basinal areas

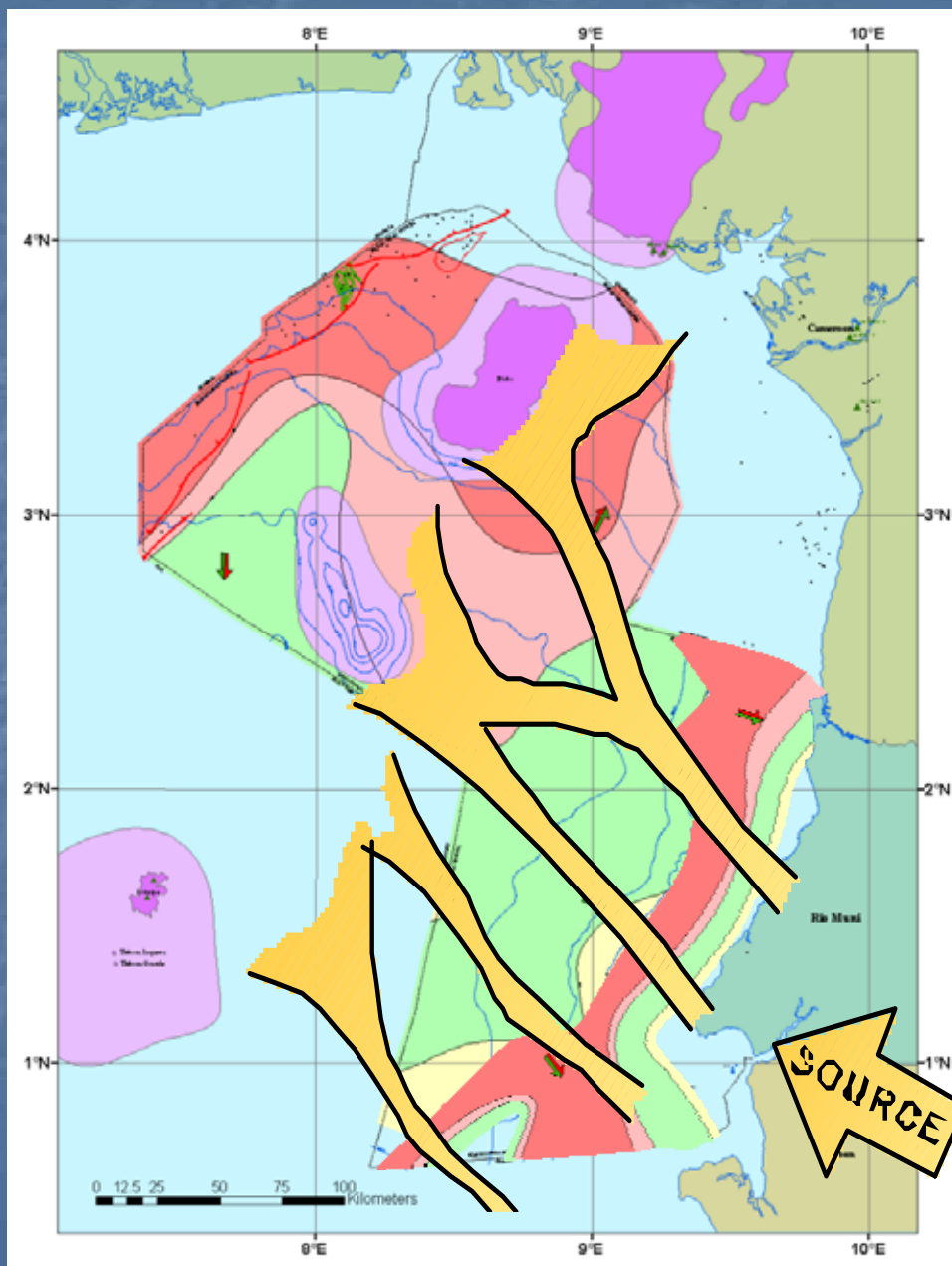
Albo Aptian source mature in marginal areas

Campanian fan and channel sounds provide excellent reservoirs

Exploration to date only in upper channel systems – PROVEN OIL  
~ 500mmbbls

Lower channel and fan systems  
– HUGE POTENTIAL





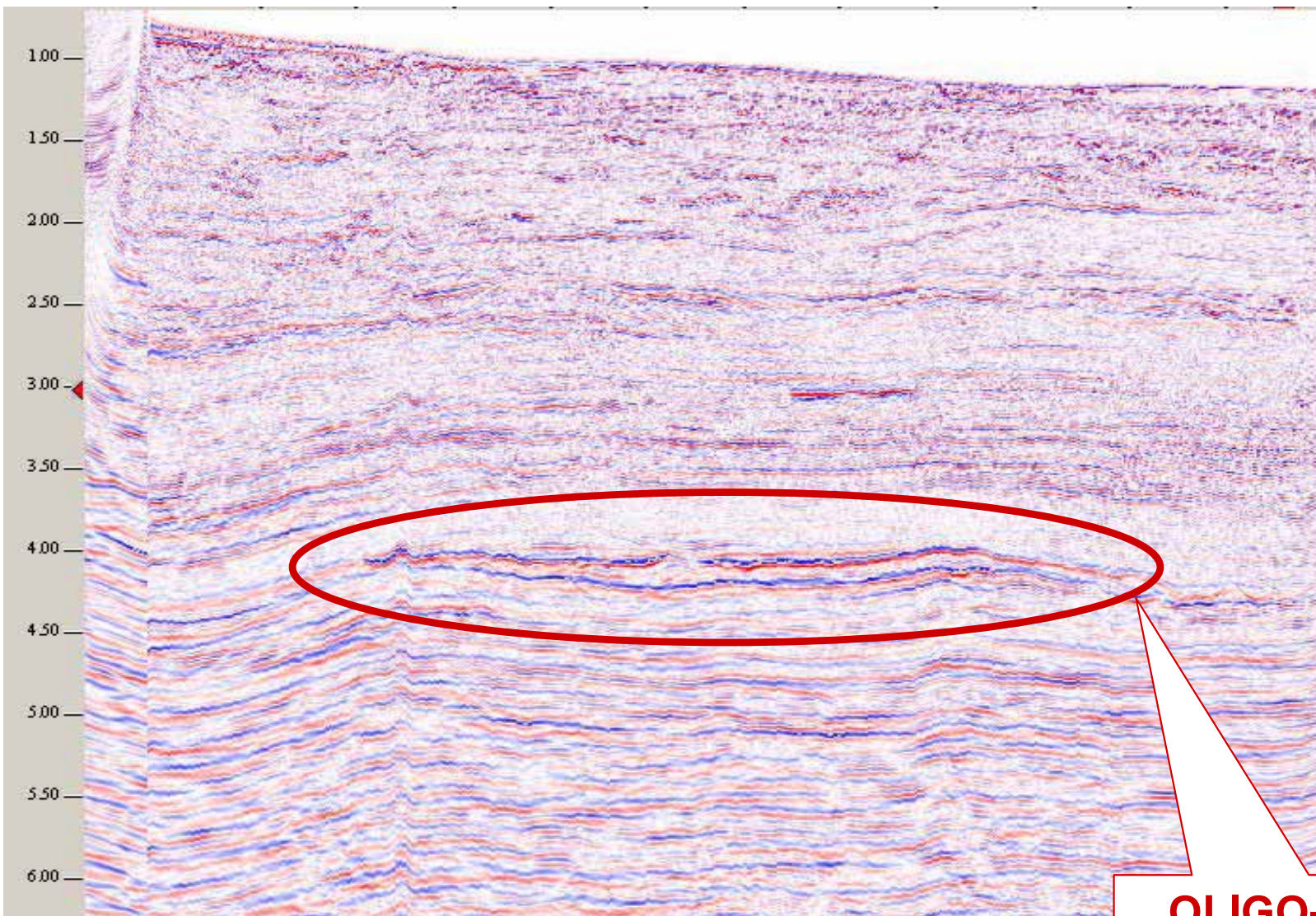
## Early Tertiary Play

Proven play in Cameroon (Coco Marine)

Apto-Turonian source mature in basinal areas

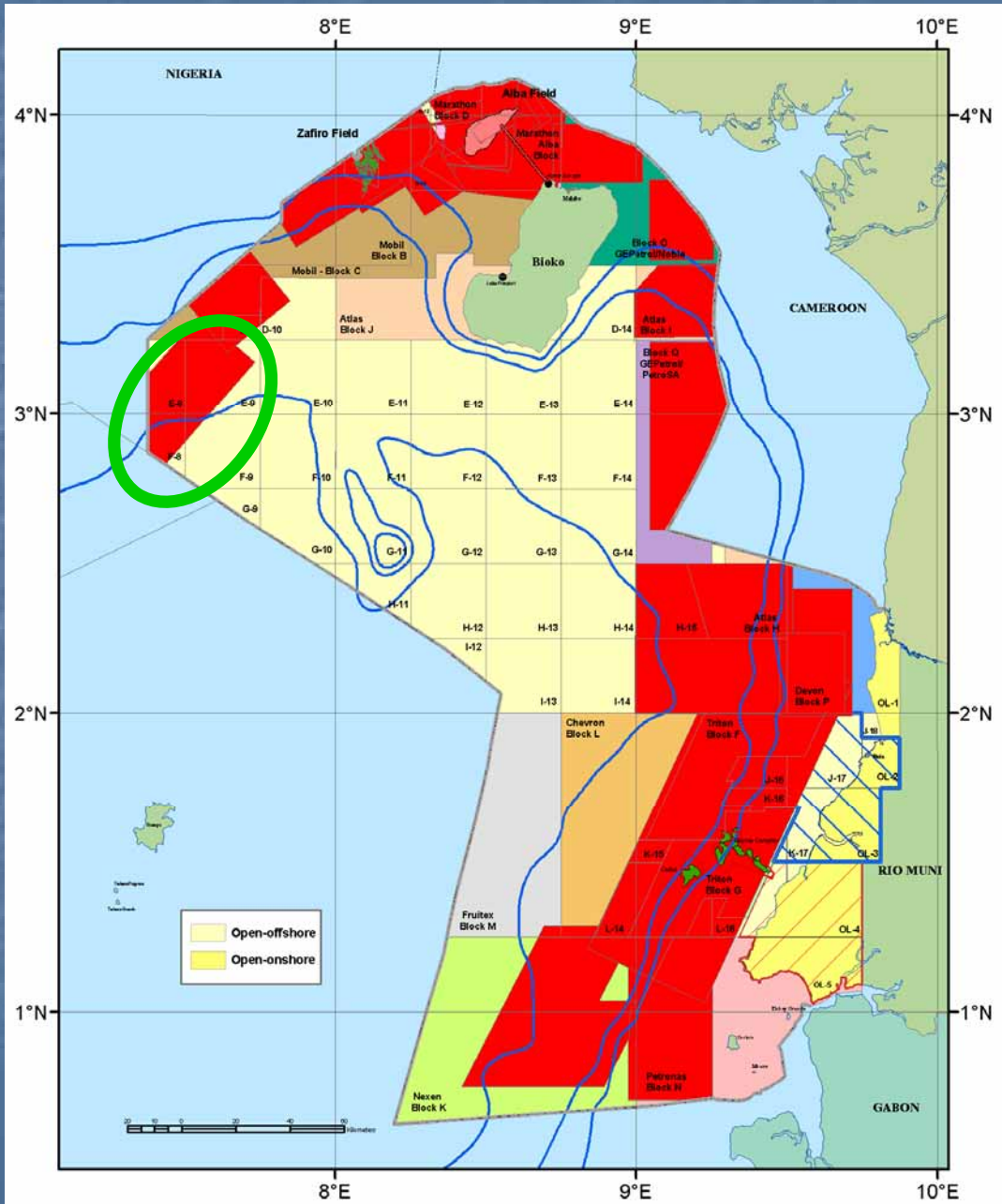
Late Eocene fan and channel sounds well imaged seismically

Deepwater play, untested in EG



*Data courtesy of GESeis and Atlas Petroleum*

**OLIGO-MIOCENE  
FAN?**



## 3D SEISMIC COVERAGE

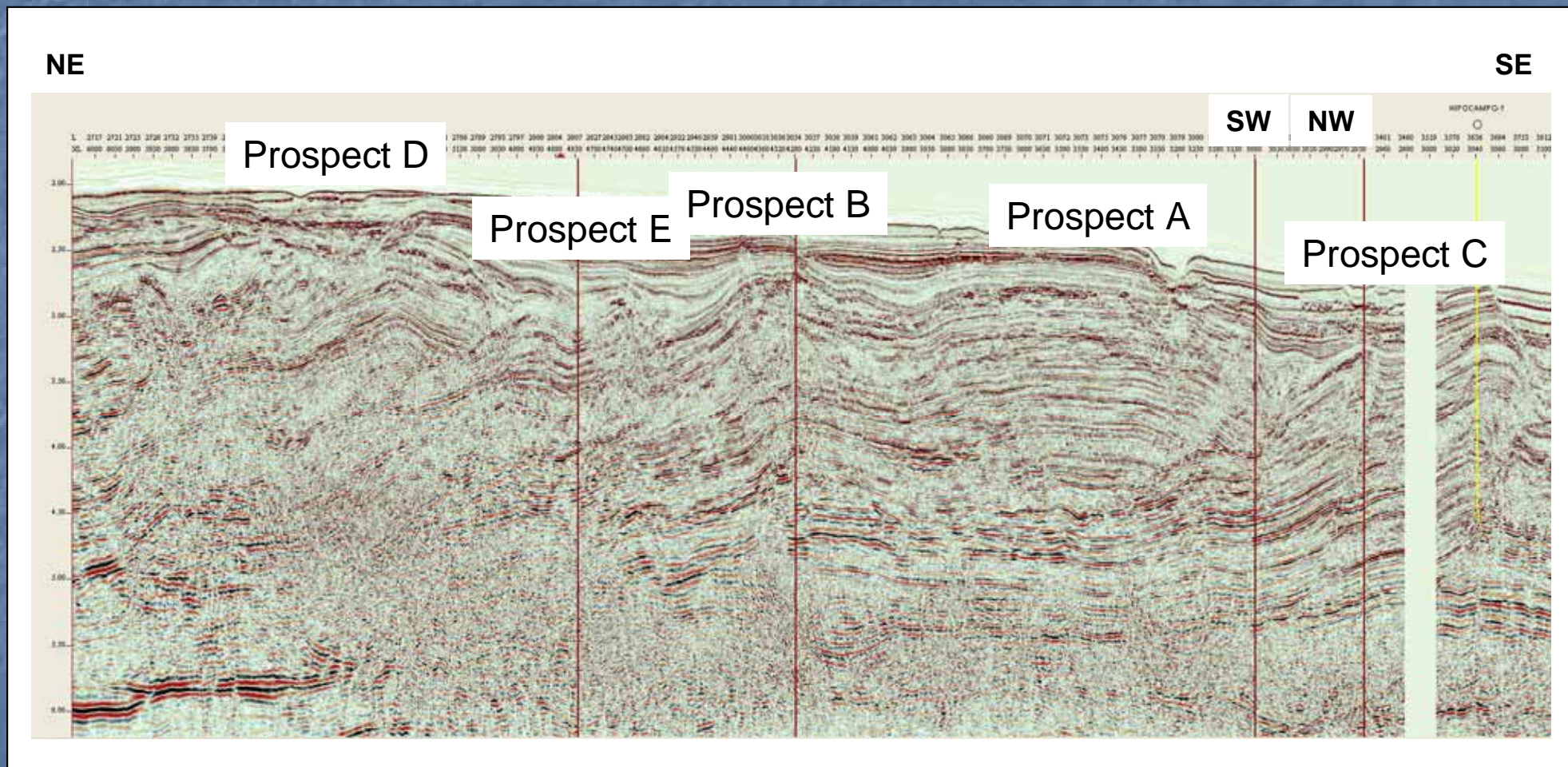
All areas coloured RED now covered by 3D seismic, around 20,000sq. kms..

The State acquires 3D seismic on unlicensed areas through GESeis, its JV seismic contractor.

GESeis promoting SBL surveys in deep water areas to reduce exploration risk.

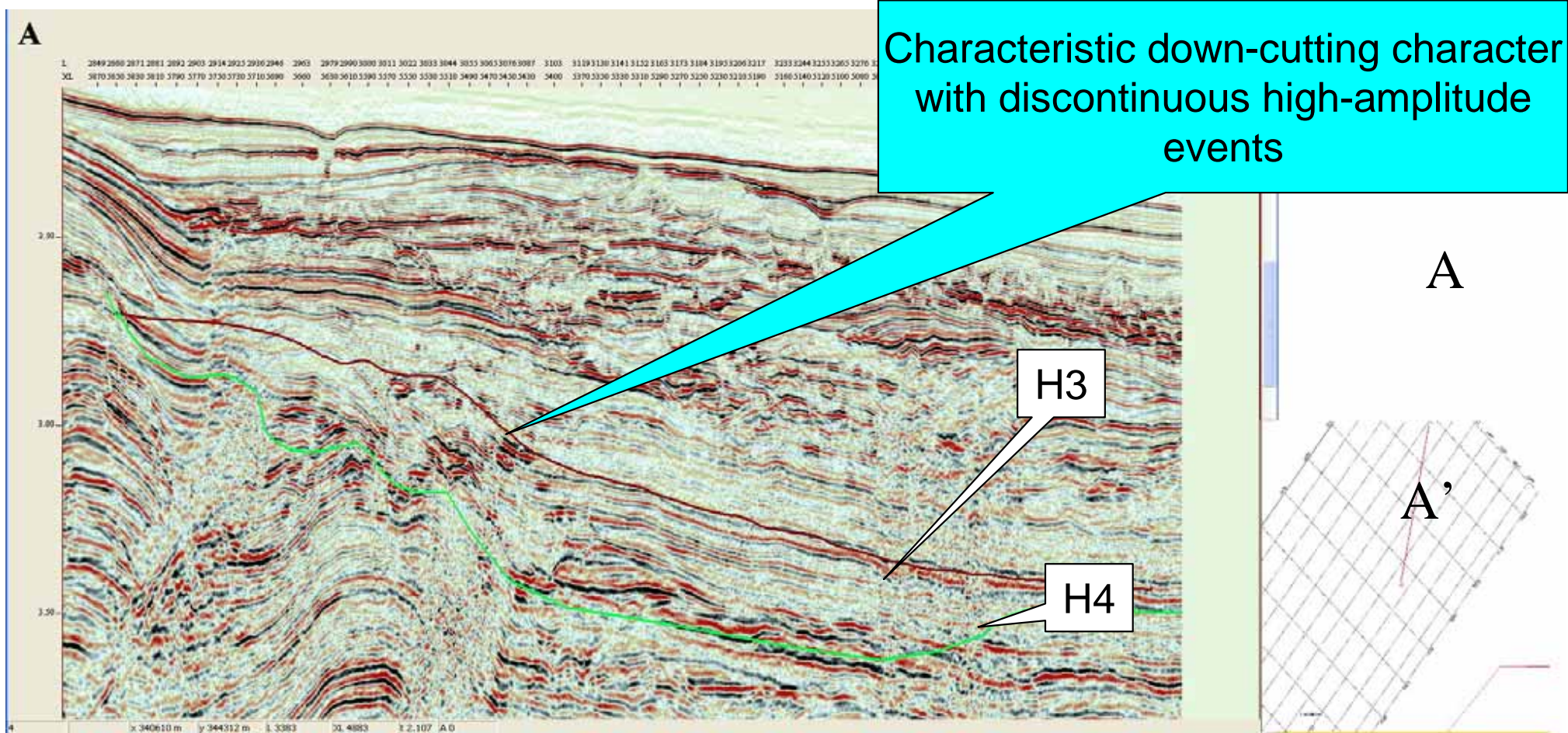


# Blocks E-8/E-9/F-8/F-9 Equatorial Guinea





## Seismic line down Channel Feature







# **BLOCKS E-8/E-9/F-8/F-9 (Former Block E)**

## **DATA PACKAGE**

- **Good quality recent vintage 3D seismic data**
- **SBL data suggests hydrocarbon bearing prospects**
- **Prospects ready to drill**
- **Time to first oil reduced**
- **Large element of work commitment covered**
- **Licence fee cost recoverable under PSC**



## **2005 RELINQUISHMENTS**

### **DATA AVAILABLE**

- **Historical seismic, various vintages**
- **Well data packages**
- **Basin studies and evaluation reports:**
  - **2005 Equatorial Guinea Seismic Mapping & Play Fairway mapping project**
  - **2001 Rio Muni Basin Study**
  - **1998 Rio Muni Petroleum Potential**



## ***Exploration Issues.....***

- **Immature exploration province**
- **Large sediment volume**
- **Proven & mature source rocks – large volumes generated – low source risk**
- **Excellent channel and fan sands - low reservoir risk**
- **Many stratigraphic trap opportunities, some structural**
- **Large unlicensed area, extensive database**

***.....LARGE REMAINING POTENTIAL***