



# HYDROCARBON SECTOR IN CAMEROON

## EXPLORATION OPPORTUNITIES IN CAMEROON

*By*

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# CHALLENGES

- **Maintain good production level from existing fields while reducing costs**
- **Intensify the search for other production opportunities in existing concessions**
- **Attract investments in Exploration**
- **Check Production Decline**



# **PRESENTATION OUTLINE**

- **GENERAL INFORMATION ABOUT CAMEROON**
- **THE MAIN ACTORS IN E&P SECTOR**
- **SNH ORGANIZATION**
- **LEGAL AND REGULATORY FRAMEWORK**
- **PARTNERS IN EXPLORATION & PRODUCTION**
- **CAMEROON MINING DOMAIN**
- **FREE EXPLORATION ASSETS**
- **CONCLUSIONS**

# GENERAL INFORMATION ABOUT CAMEROON



- Situation: Central Africa;
  - Borders shared with: Chad, Nigeria, Gabon, Republic of Central Africa, Congo, Equatorial Guinea;
  - Population: 19.6 millions (2010);
  - Surface area: 475,442 km<sup>2</sup>;
  - Average annual demographic growth rate: 2.19%;
  - GDP: 22.3 billion US\$;
  - GDP/Resident: 1,13 US\$;
  - Average annual GDP growth rate: 4.5%;
  - Inflation rate: 1.3%;
  - Currency: CFA FRANC
- 1 EURO = 656 FCFA



Source : World Bank (2011)



# THE MAIN ACTORS IN THE CAMEROON E&P SECTOR



**THE PRESIDENCY OF  
THE REPUBLIC**

**SECRETARIAT  
GENERAL OF  
THE PRESIDENCY**

**THE PRIME  
MINISTER'S OFFICE**

**SNH**

**MINISTRY  
IN CHARGE  
OF MINES**

**MINISTRY  
IN CHARGE  
OF ENERGY**

**MINISTRY  
IN CHARGE  
OF FINANCE**

**MINISTRY  
IN CHARGE  
OF ECONOMY**

**MINISTRY  
IN CHARGE  
OF TRADE**

**MINISTERE  
IN CHARGE  
OF ENVIRONMENT**



# SNH ORGANIZATION

**Creation : 12 march 1980**

- **Nature : Para-Statal Company with an industrial and commercial status**
- **Missions :**
  - Promote, valorise and follow up all petroleum activities in Cameroon ;
  - Manage State's interests in the domain of hydrocarbons ;
  - Commercialise the share of the national oil production accruing to the state;
  - Manage and conserve E&P data generated in the country.
- **Manpower: 298 employees all Cameroonians**

# LEGAL AND REGULATORY FRAMEWORK



## **The Petroleum Code**

**Promulgated into Law N° 99/013 of December 22, 1999**

**The New Gas Code adopted in April 2012,  
replaces the former one promulgated into Law  
N° 2002/013 of December 30, 2002**



# THE PETROLEUM CODE

- A Petroleum Contract replaces the former Convention of Establishment and Contract of Association
- The Petroleum Code and its enabling Texts are exhaustive and address all legal and regulatory matters relating to the Conduct of Petroleum Operations in Cameroon
- Clear identification of the Nature of the Contract (Concession or PSC)
- Negotiable or biddable issues are well identified
- Clear separation between The State as the Regulatory Body and the State Body party to a Petroleum Contract
- Issues related to Environmental Protection, Decommissioning and Sites Restauration are addressed

# THE PETROLEUM CODE: INCENTIVES



- **Reduced Income Tax rate from 57.5% to a negotiable value between 38.5% and 50%.**
- **Tax Exemption on Profits and Dividends**
- **Special conditions for exploring frontier acreages (Special Petroleum Operations Zones)**

# THE NEW GAS CODE



- The aim of the new Gas Code is to institute incentives for the investments in the projects such as LNG, Methanol and Fertilizer.
- It provides - (i) stability of the fiscal and legal regime and - (ii) obligations for the State to secure investments for gas projects.
- One of the main innovations is the institution of the Gas Convention to be signed between the State and the Gas Company .
- The Gas Convention specifies legal, fiscal, social and environmental conditions to be applied to the gas operations, and provides incentives to improve the economics of the significant gas projects.
- The main fiscal and customs incentives provided by the Gas Convention for the big gas projects are:
  - Tax holiday for up to ten (10) years;
  - Reduced Income Tax rate from 38.5% - 50%, to a negotiable value between 15% and 30%;
  - Exemption of custom duties for imported project goods and equipment.



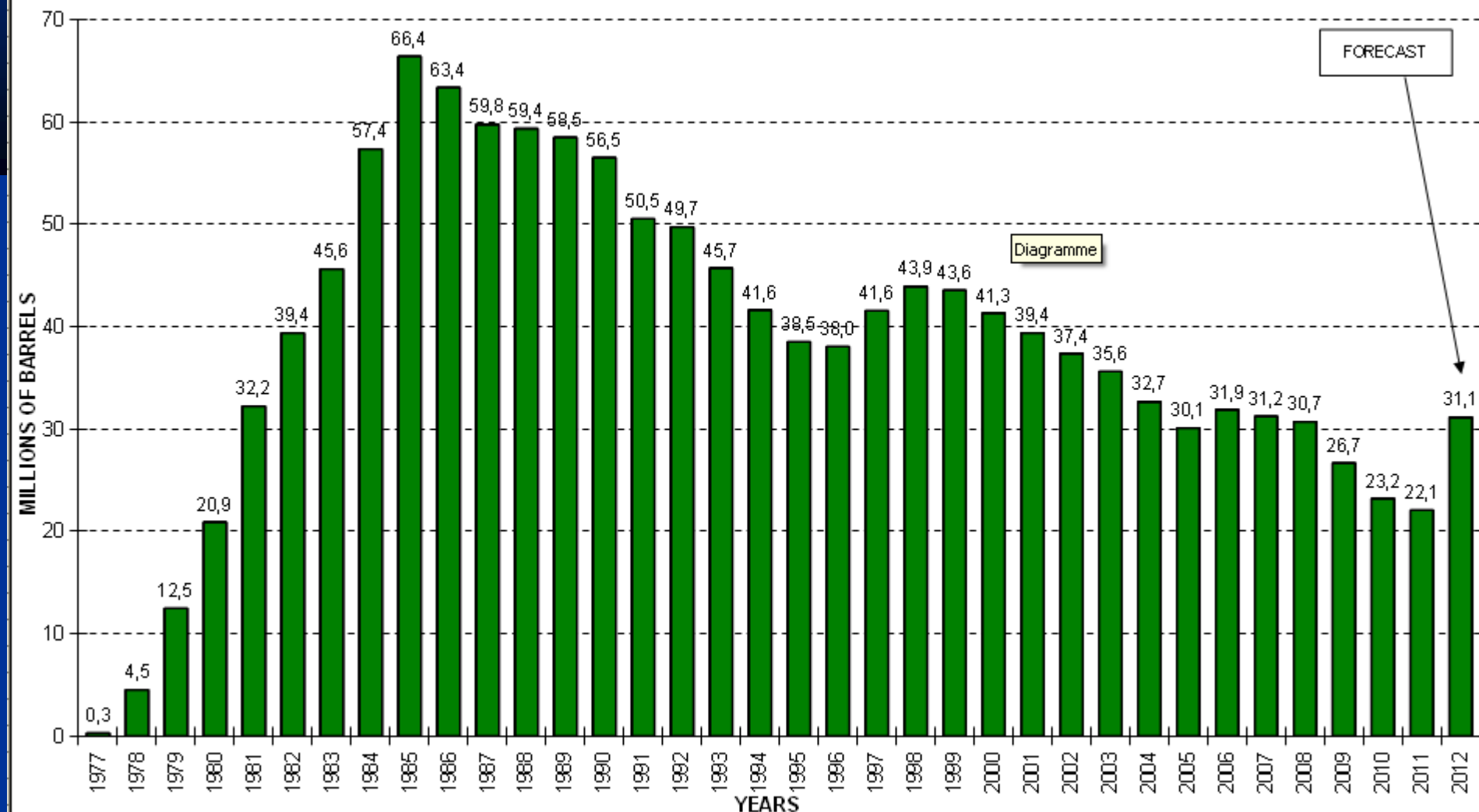


# **PARTNERS IN EXPLORATION/PRODUCTION**

- 1. Perenco Cameroon**
- 2. Perenco Rio del Rey**
- 3. Perenco Oil & Gas**
- 4. Addax Petroleum  
Cameroon**
- 5. Addax Petroleum  
Company Cameroon**
- 6. Pronodar Limited**
- 7. Noble Energy**
- 8. Petronas Carigali**
- 9. EurOil Limited**
- 10. Vitol E&P Limited**
- 11. Murphy Cameroon  
Ntem Oil Co, Ltd**
- 12. Sterling Cameroon Ltd**
- 13. Kosmos Energy**
- 14. Rodeo Resources**
- 15. RSM Production Corpor.**
- 16. Victoria Oil & Gas**
- 17. Glencore Explo. Cam. Ltd**
- 18. Afex Global Limited**
- 19. Yan Chang Logone  
Development Holding Co**
- 20. SINOPEC International  
Petroleum Exploration and  
Production Corporation**

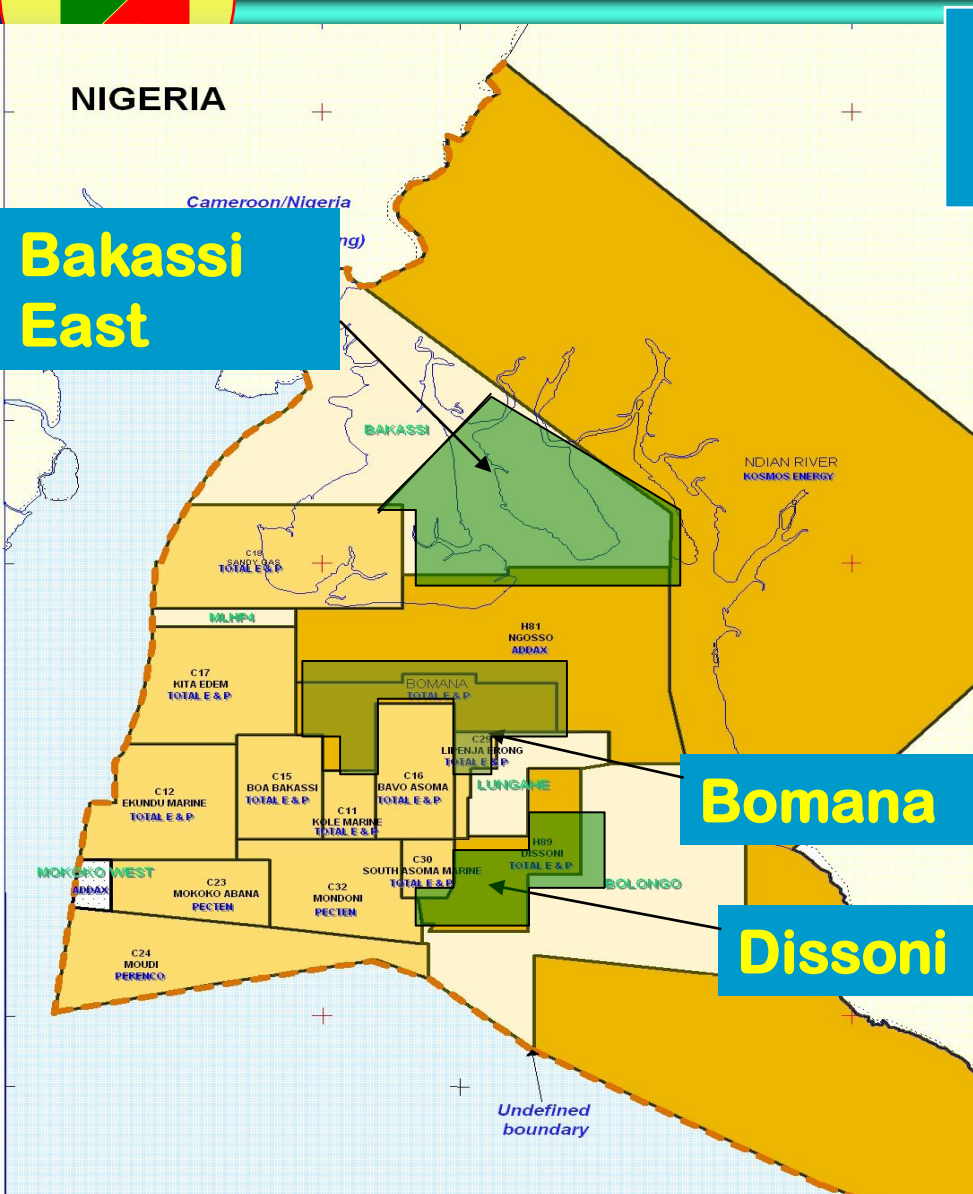
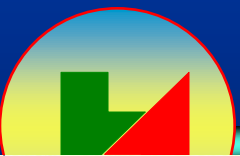
# PRODUCTION PROFILE

PRODUCTION PROFILE FROM 1977 TO 2012  
(IN MILLIONS OF BARRELS)





# FREE EXPLORATION ASSETS

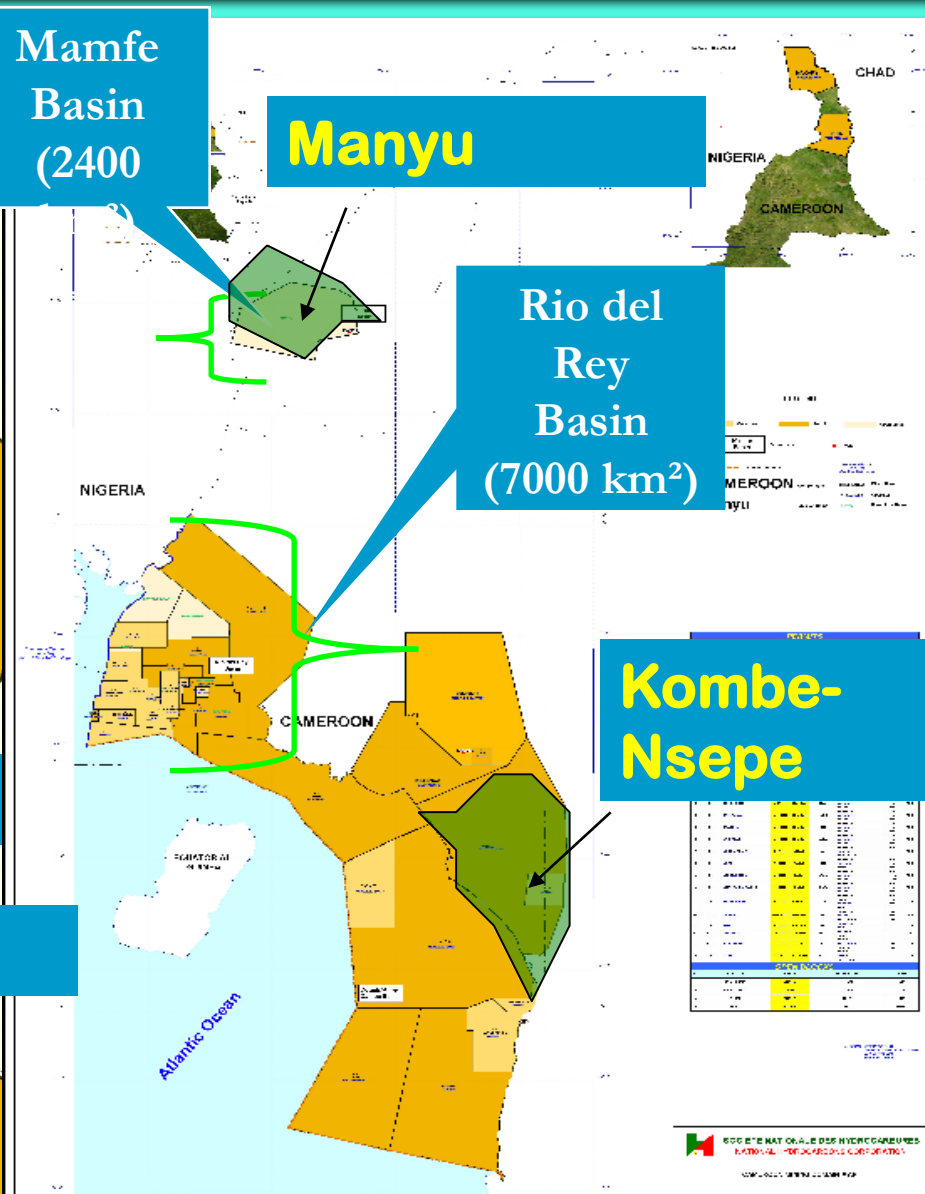


Mamfe Basin  
(2400)

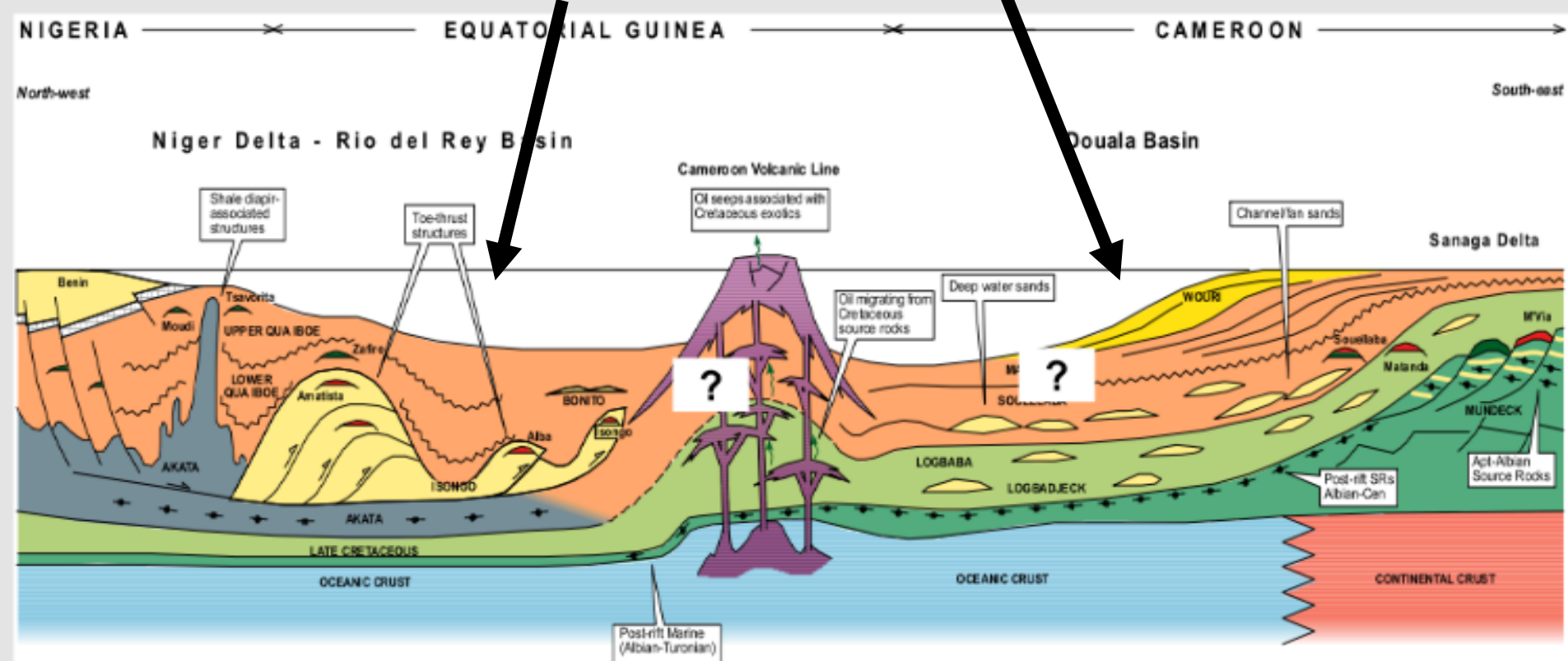
Manyu

Rio del Rey Basin  
(7000 km<sup>2</sup>)

Kombe-Nsepe



# General Cross Section Rio del Rey – Douala/Kribi-Campo



## Observations/Variations

- Tectonic Features
- Slope Environment





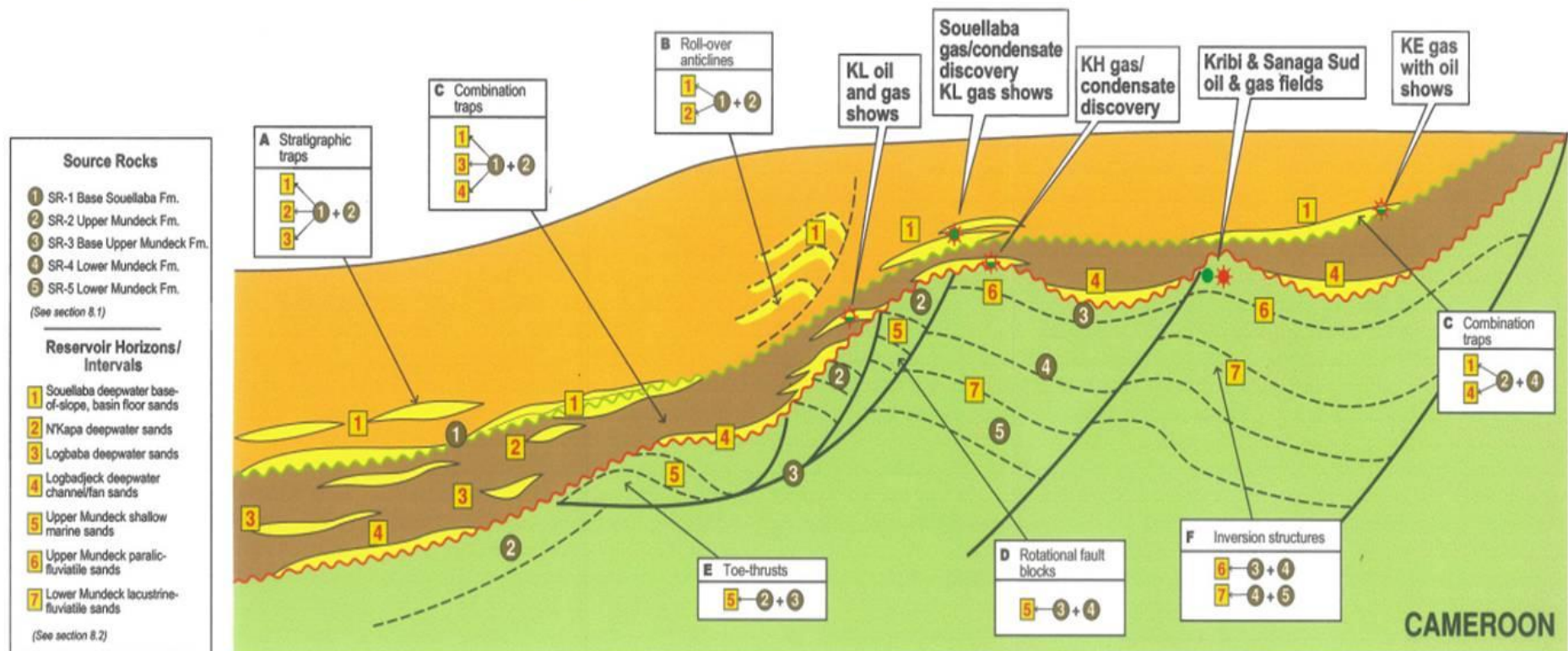
# Cameroon Douala/Kribi-Campo basin: Schematic structural cross section



NW

SE

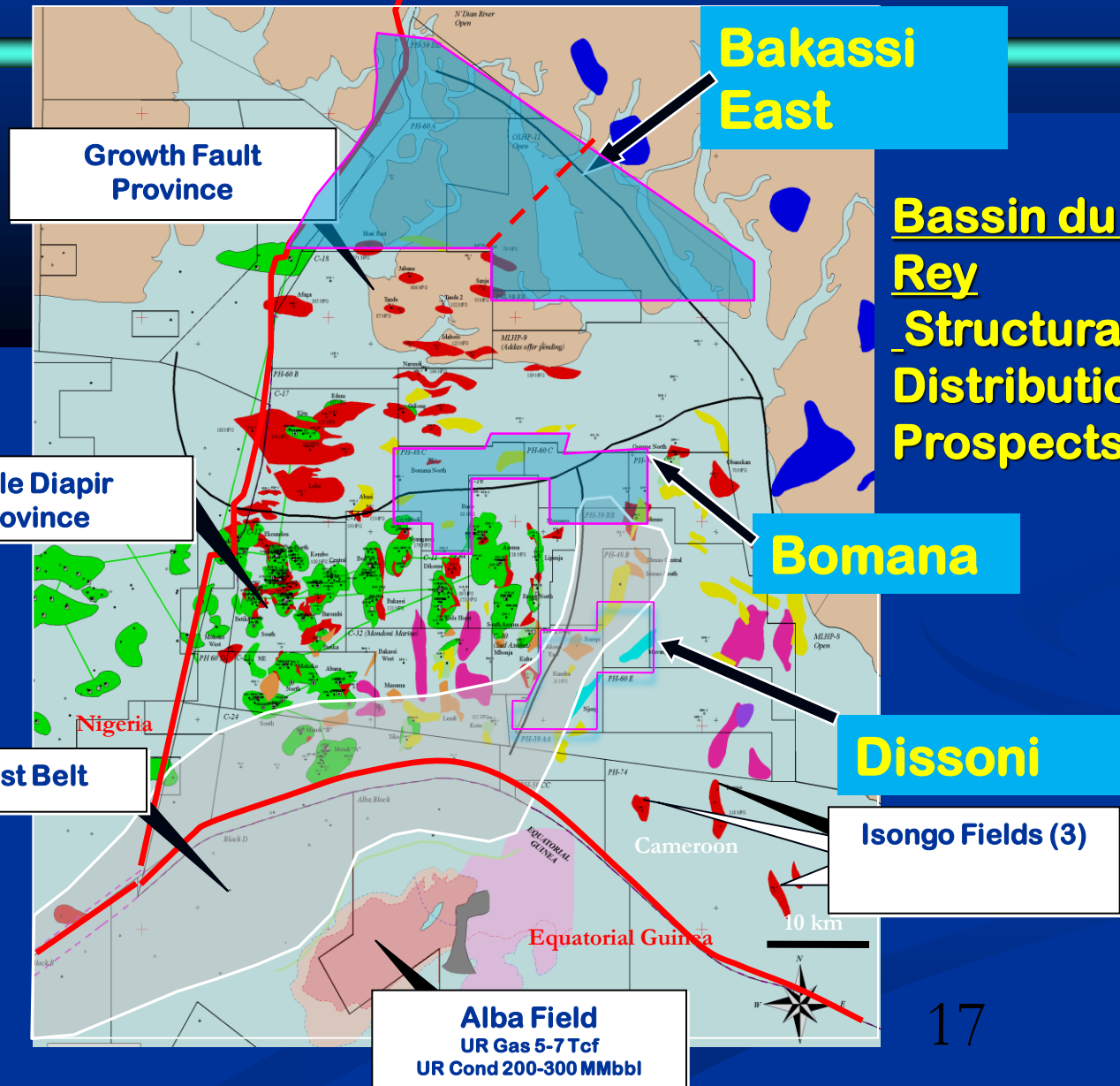
## Trapping Mechanisms and Play-type Summary



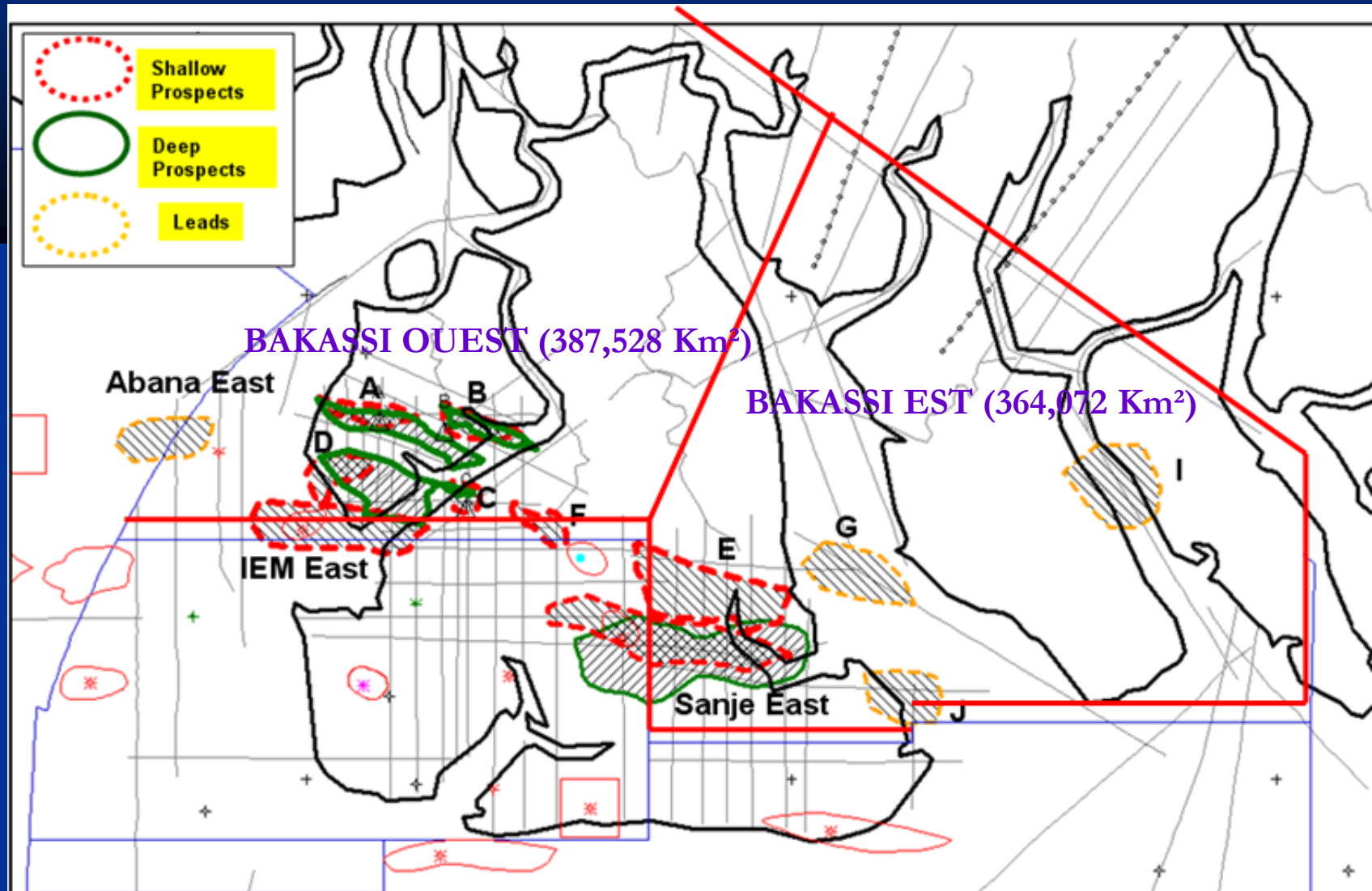


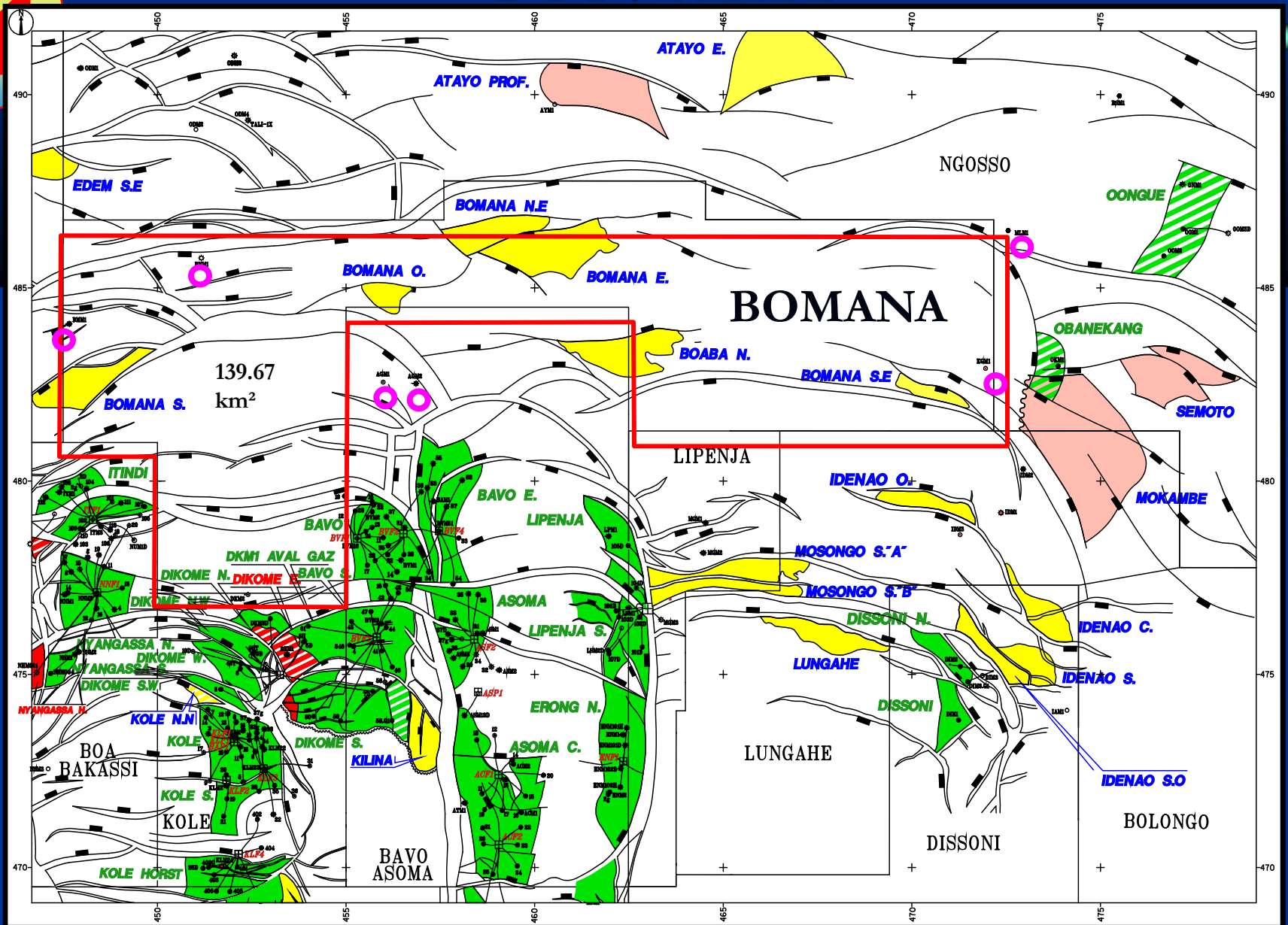
# BAKASSI EAST - BOMANA – DISSONI

## PROSPECTIVITY



# MAPS OF LEADS AND PROSPECTS





# BOMANA PROSPECTIVITY



## BOMANA East

S7A: 1.6-2.6-5.5 POS: 26%  
S7B: 2.2-3.2-5.2 POS: 26%  
S7.5B: 4-5.6-8.9 POS: 26%

## BOMANA North-East

S6: 2.8-4-6.4 POS: 46%

## BOMANA East

S5D: 2.7-4.2-8.3 POS: 46%  
S5E: 3.6-5.2-8.5 POS: 46%  
S5GH: 1.3-1.8-3 POS: 46%

## BOMANA North

S6: 2.1-2.9-4.5 POS: 46%

## BOMANA West

S7: 2.4-3.4-5.3 POS: 22%

## BOMANA North

S5D: 0.5-0.8-1.4 POS: 46%

## BOMANA South-East

S6: 2.3-3.1-4.5 POS: 46%

## BOMANA South

S7I/2: 5.7-10.5-36.5 POS: 22%  
S74/5: 8.2-14.8-46.9 POS: 19%

## BOMANA West

S6II-III: 3.1-4.1-6.1 POS: 46%

## BOMANA South

S6II: 0.5-1-3.4 POS: 41%  
S6III: 6.9-10.5-19 POS: 30%

## BOABA North

S5D: 1.5-2.1-3 POS: 46%  
S5G: 1.8-2.4-3.5 POS: 46%

## BOMANA North

S7A: 3.7-6.1-14 POS: 22%  
S7B: 4.6-7.7-18.3 POS: 19%

## BOMANA

LIPENJA

BOA-BAKASSI

KOLE

BAVO-ASSOMA

LUNGAHE

DISSONI

S5 prospects

S6 prospects

S7 prospects

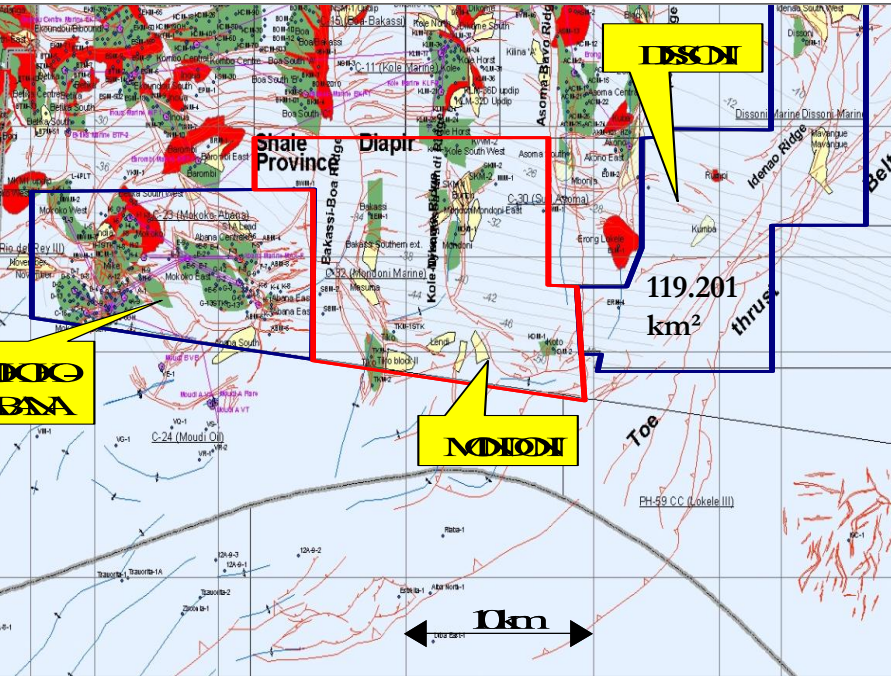
Evaluated prospects

Non evaluated prospect

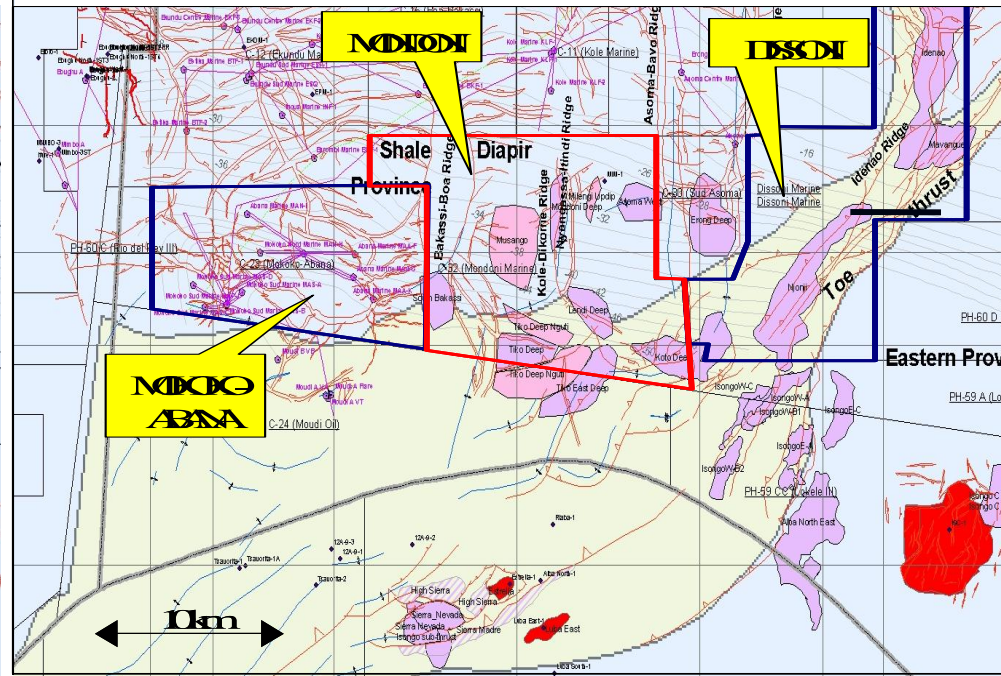
Unrisked reserves : Min-Mod-Max Mbbls



# DISSONI EXPLORATION



**FLCOENKOEHEBIAKS**  
**FLAMAP**

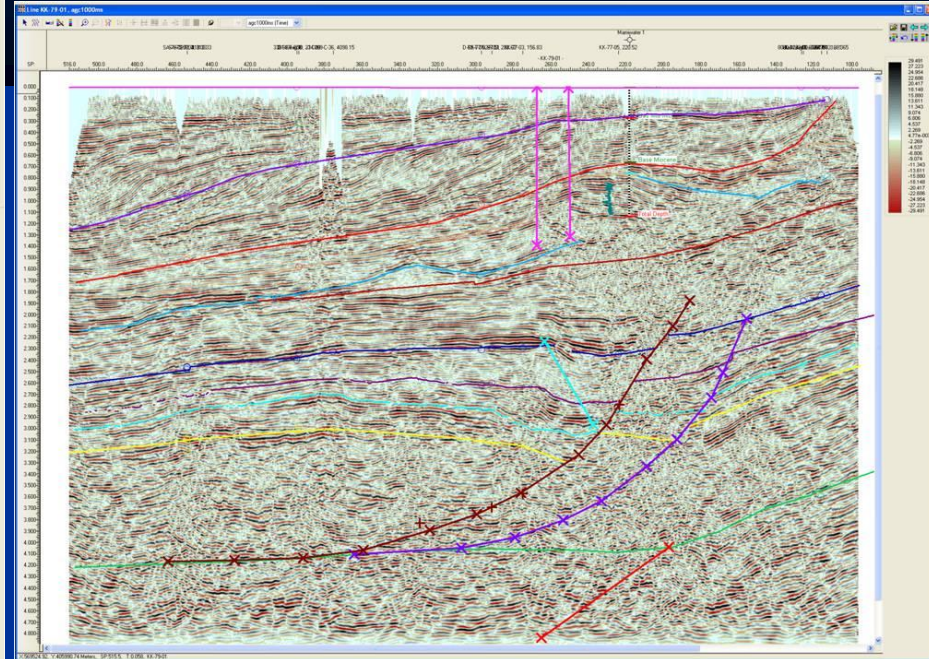
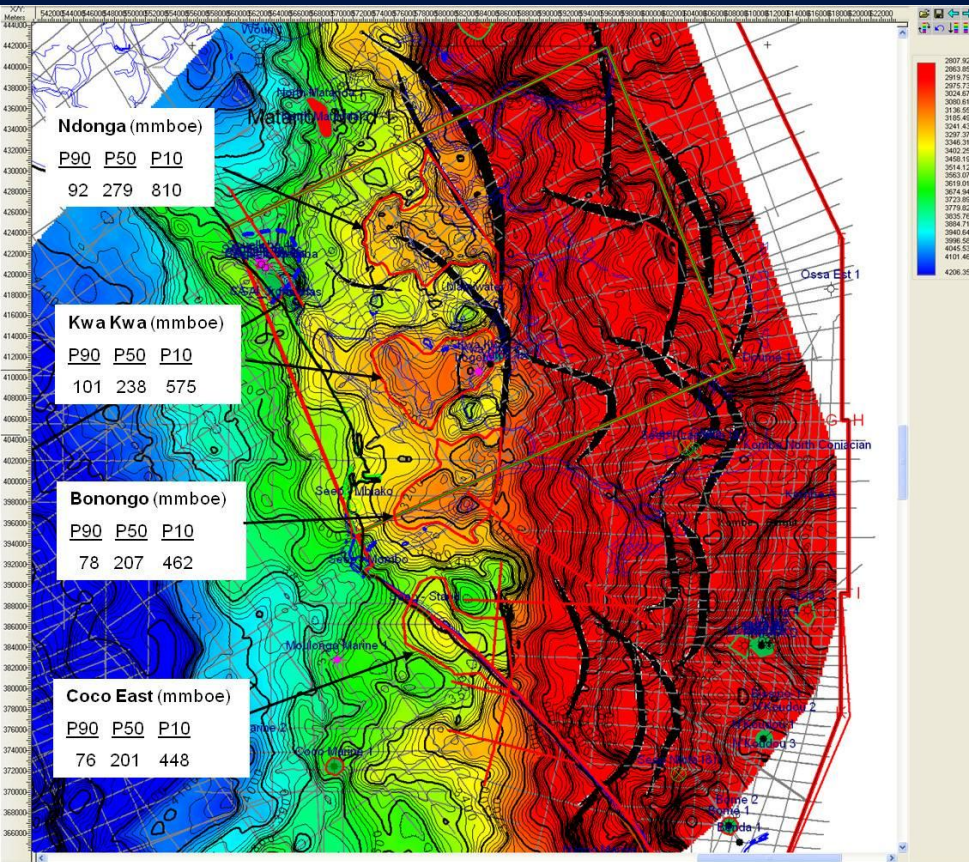


**AKOEETURBIDES**  
**(Ngi/Dogkong/Congefrs)**  
**FLAMAP**

- 06 Wells
- 03 shallow deltaic discoveries
- 03 identified deep turbiditic prospects (Diongo/Isongo)

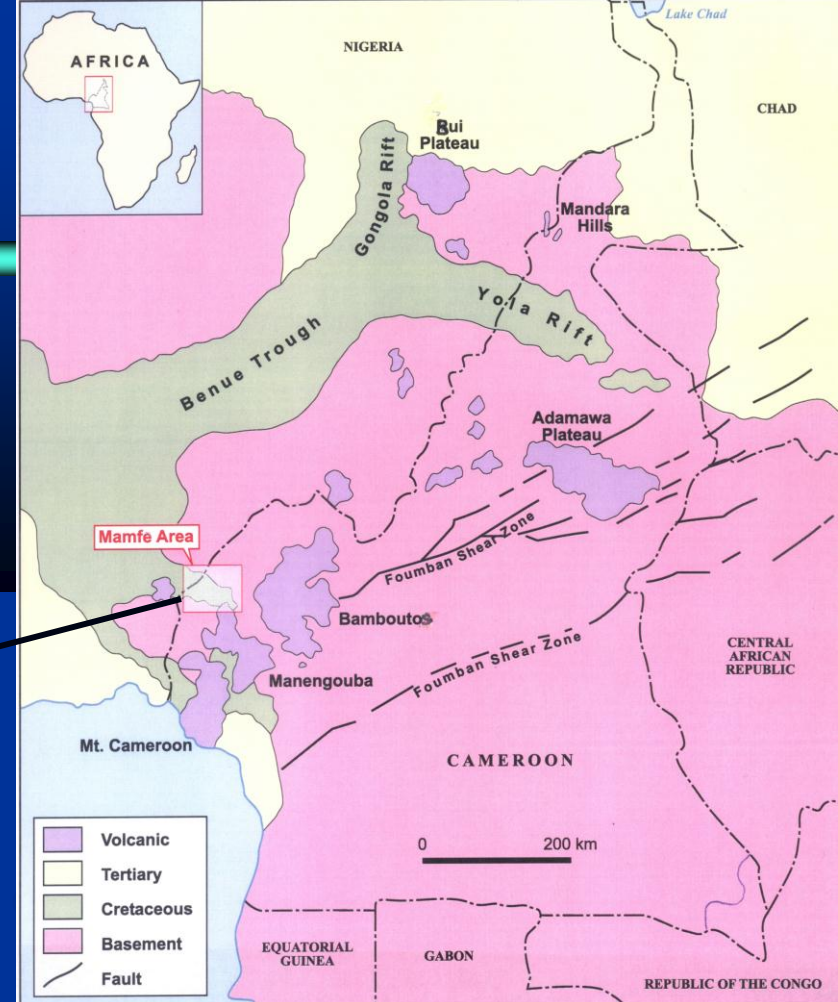
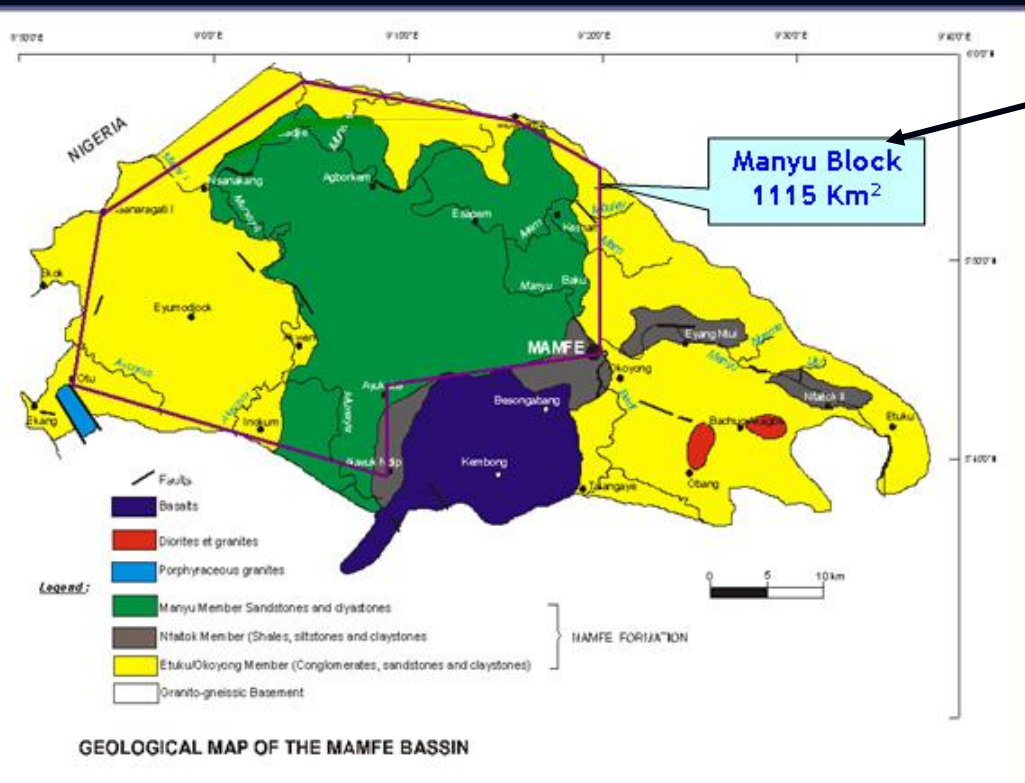


# KOMBE-NSEPE PROSPECTIVITY





# MANYU BLOCK

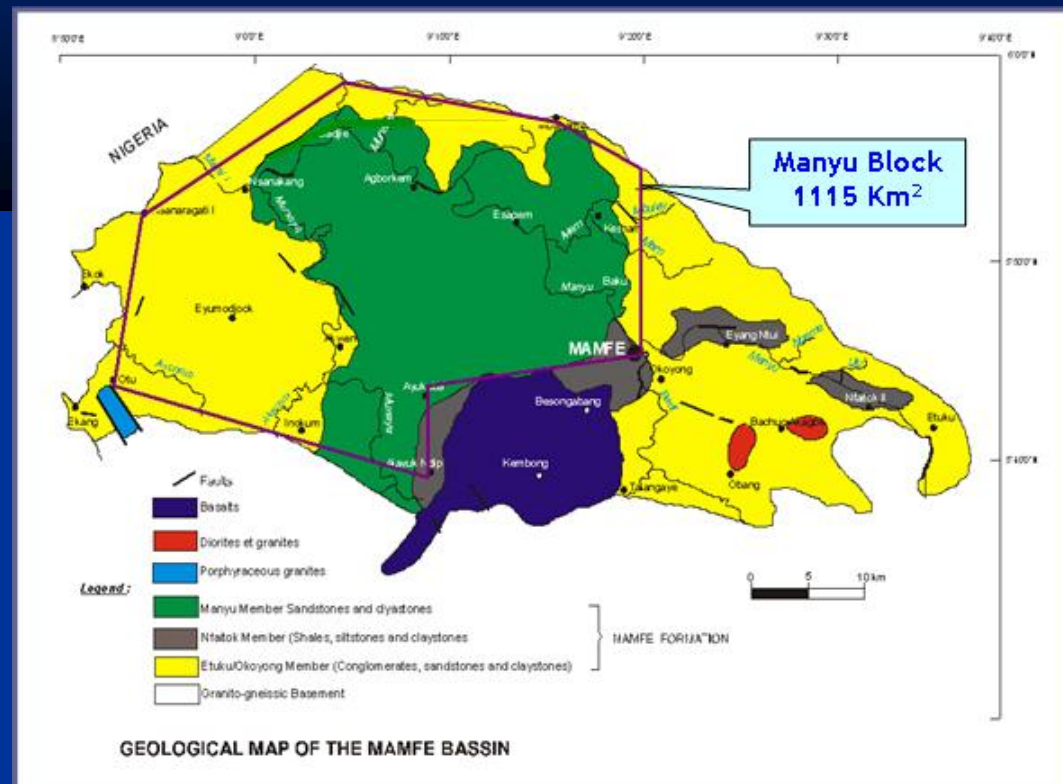




# MANYU BLOCK

The MANYU Block represents the prospective area of the Mamfe sedimentary Basin located in the South-West Province of Cameroon, between 5°36' and 5°59' of Latitude North and 8°50' and 9°35' of Longitude East.

The petrography of the Mamfe Basin includes conglomerates, sandstones, siltstones, claystones and shales. In addition to these sedimentary rocks, crystalline rocks such as basalts, diorites, granites and porphyreous granites are present within the basin



*Geological Map of the Mamfe Basin : MANYU Block location*



# MAMFE BASIN : ELEMENTS OF THE PETROLEUM SYSTEM

## ■ Source Rocks (SR):

- Include excellent lacustrine black shales with type I to type IV kerogen and TOC ranged from 0.12 to 7.23%),
- Oil window ( $0.5\% < R_o < 1\%$ ) is situated between 3000 m to actual surface.

## ■ Sealing Rocks:

- Are represented by lacustrine and over bank shales and claystones.



# MAMFE BASIN : ELEMENTS OF THE PETROLEUM SYSTEM (NEXT)

## ■ Reservoir rocks:

- Are mainly made of Lower cretaceous arkosic sandstones (Thin section  $\Phi=30-40\%$ ),
- Longitudinal and transverse bars, isolated or multistoried lenses and channels.

## ■ Traps:

- Stratigraphic traps (abandoned channels and pinchouts), and ,
- Structural traps (post-rift folds, syn- and post-rift faults).

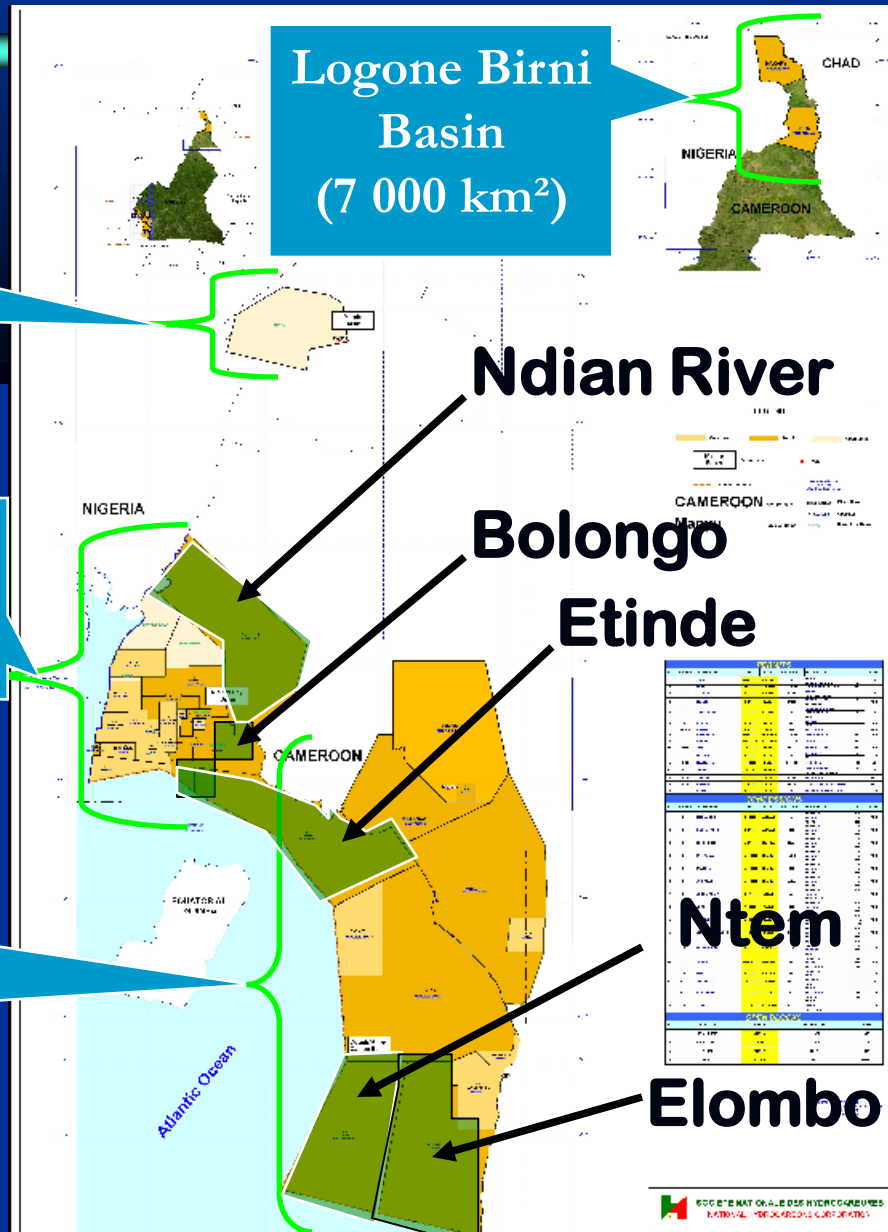




# MAMFE BASIN : ELEMENTS OF THE PETROLEUM SYSTEM (END)

- **Hydrocarbons Generation and migration**
  - Occurred during Santonian and Early Tertiary.
  - Source Rocks located at the centre of the basin.
  - Shallow reservoirs appear at the E due to uplifting and erosion, suggesting HCs migration to the surface and/or HCs destruction by meteoric waters.
  - Deep reservoirs are elsewhere across the basin.
  - Geological Model (Dynamic Rift) suggests that HCs can still be trapped within deep structures.

# BLOCKS FOR WHICH PARTNERS ARE SOUGHT







# CONCLUSIONS

- **BOMANA, DISSONI and KOMBE-NSEPE blocks are highly prospective with established hydrocarbon discoveries**
- **BAKASSI EAST and MANYU blocks remain underexplored with appreciable potential**
- **Good prospectivity in these five blocks highlighted in several studies realised so far**
- **The attractive Petroleum and Gas Codes, and the political stability of Cameroon in the sub-region, provide an incentive environment for investments in the country's hydrocarbons sector.**



THANK YOU!