

圖4-1-10 安哥拉 (Angola) Block 14 深水礦區之油田

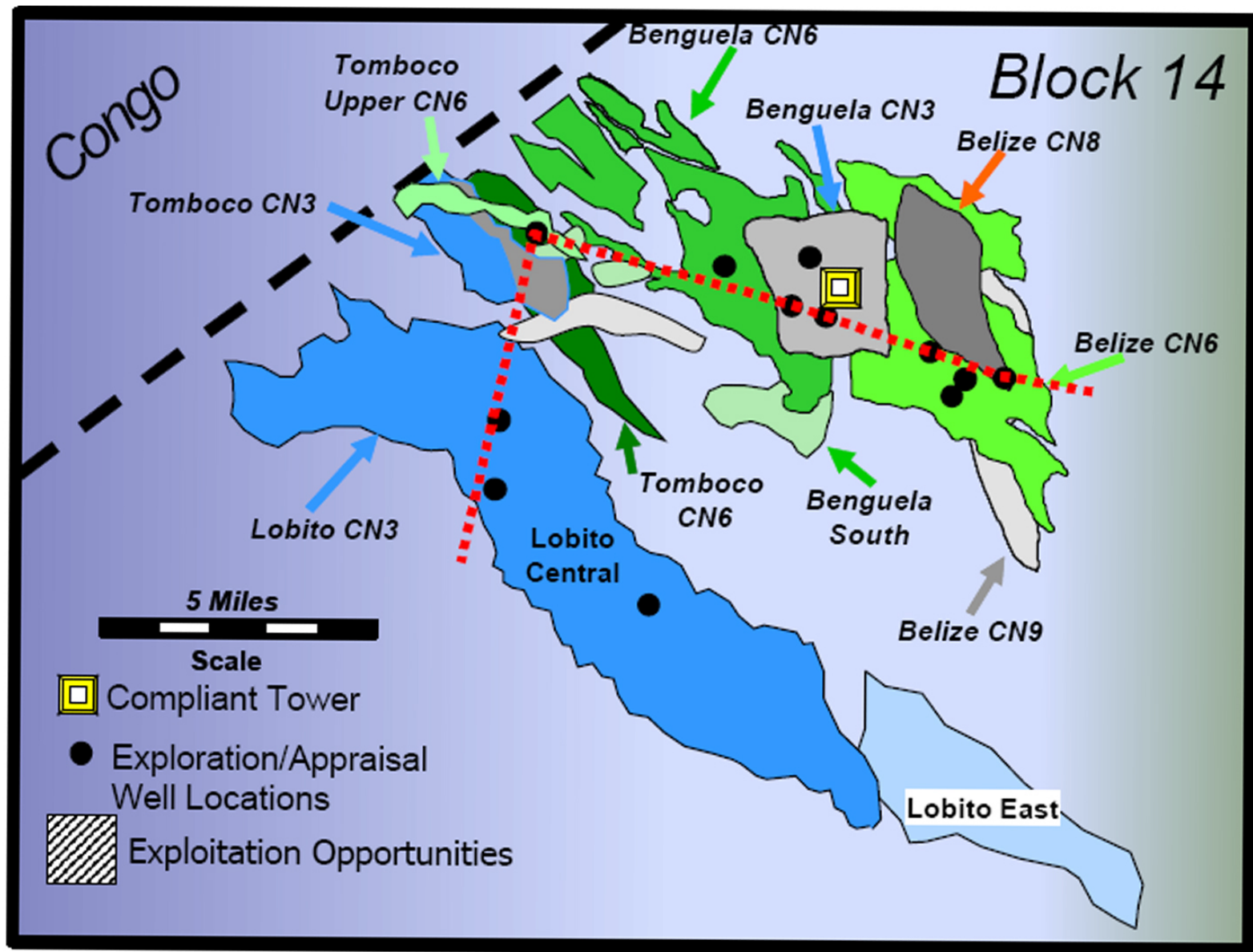


圖4-1-11 安哥拉 (Angola) Block 14 深水礦區之油田 及探勘井位及探勘機會。第 85 頁

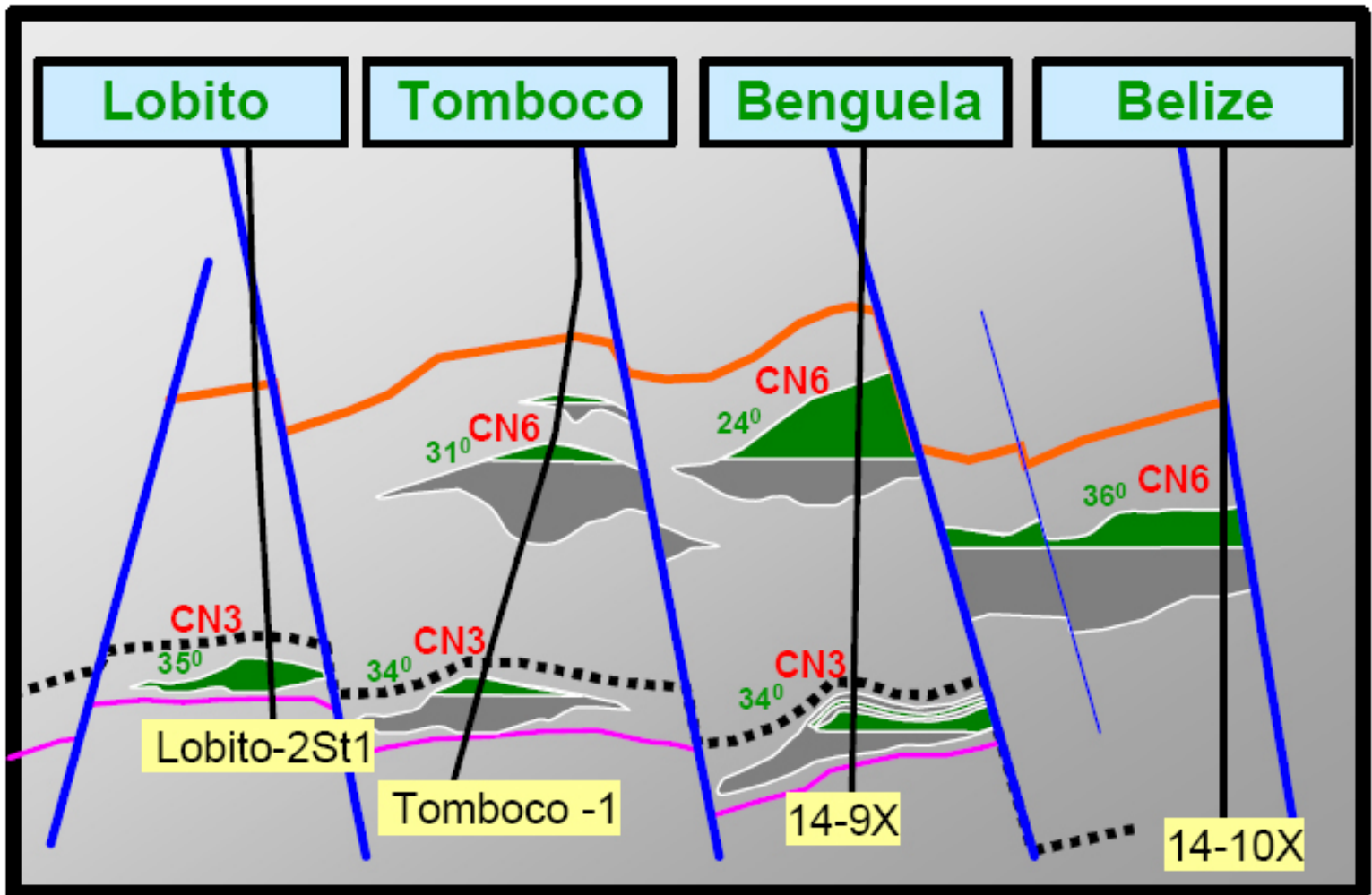
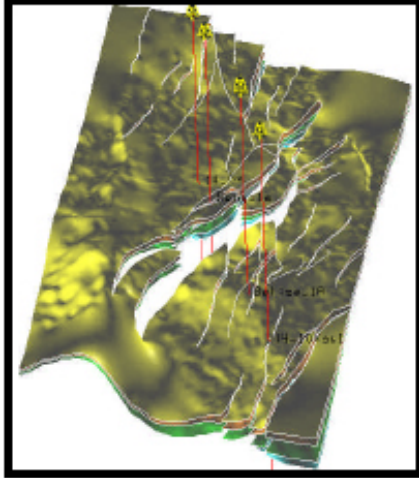
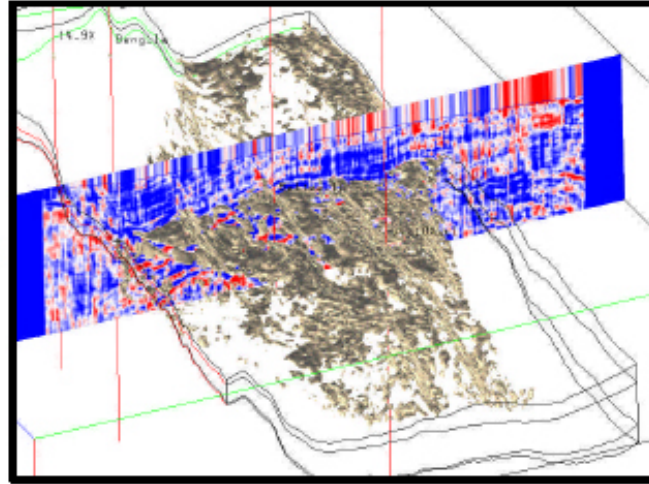


圖4-1-12 Block 14之Benguela, Belize, Lobito及 Tomboco(BBLT) 為第二輪開發之油田。

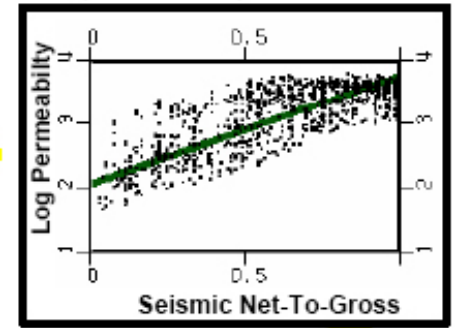
### Structural Framework



### Seismic Prediction of N/G



### Transforms of N/G to Por, Perm, and Sw



### Geologic Model Prepared for Scale-Up

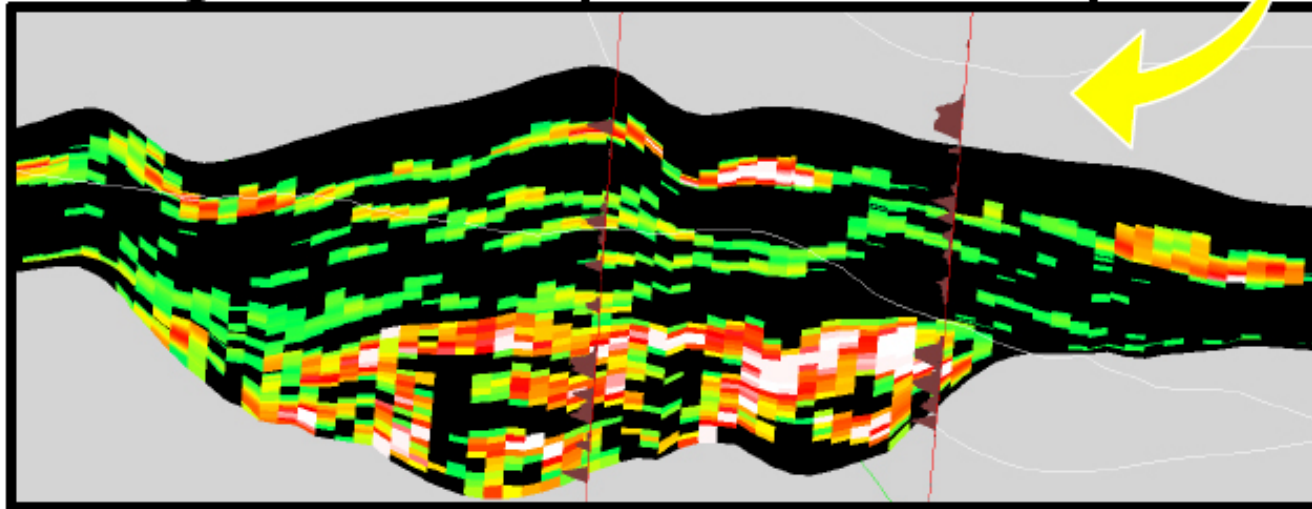


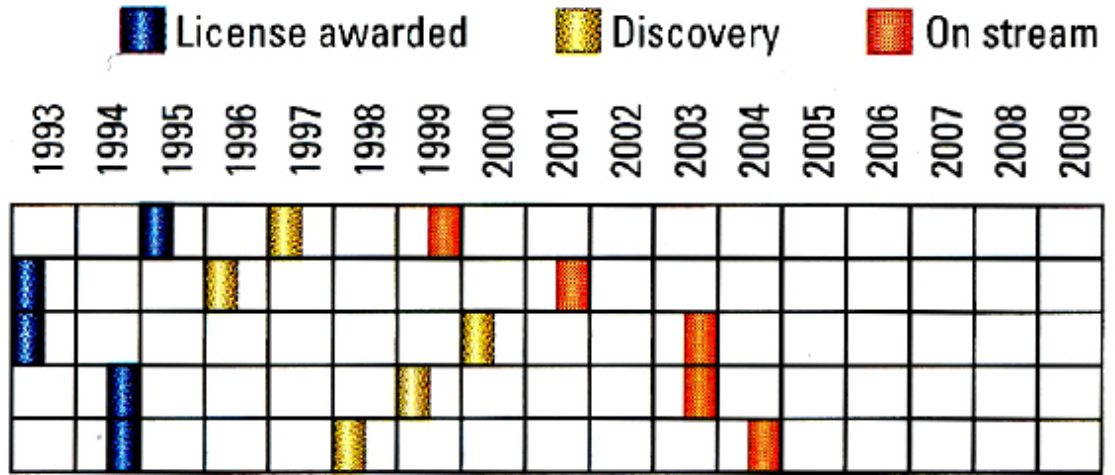
圖4-1-13 Block 14油田地質架構之地下構造圖及震測剖面圖。



# Angola

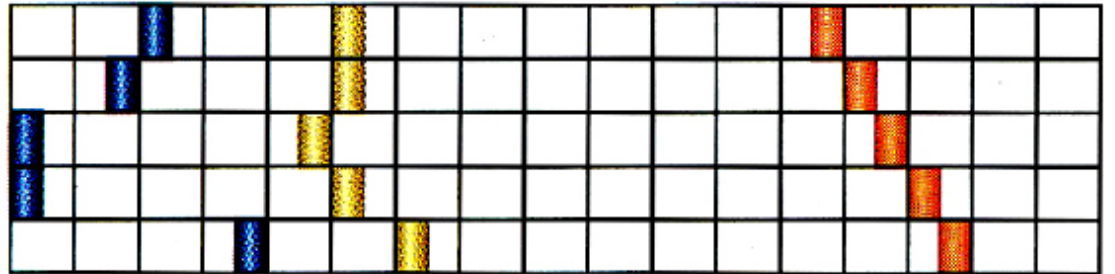
## On stream projects

- Kuito - Blk 14 (CVX)
- Girassol - Blk 17 (Total)
- Jasmim - Blk 17 (Total)
- Xikomba - Blk 15 (XOM)
- Kizomba A - Blk 15 (XOM)



## Projects under development

- BBLT - Blk 14 (CVX)
- Kizomba B - Blk 15 (XOM)
- Dalia/Camelia - Blk 17 (Total)
- Rosa - Blk 17 (Total)
- Greater Plutonio - Blk 18 (BP)



## Probable developments

- Tombua Landana - Blk 14 (CVX)
- Kizomba C - Blk 15 (XOM)
- Acacia Hub - Blk 17 (Total)
- Negage - Blk 14 (CVX)

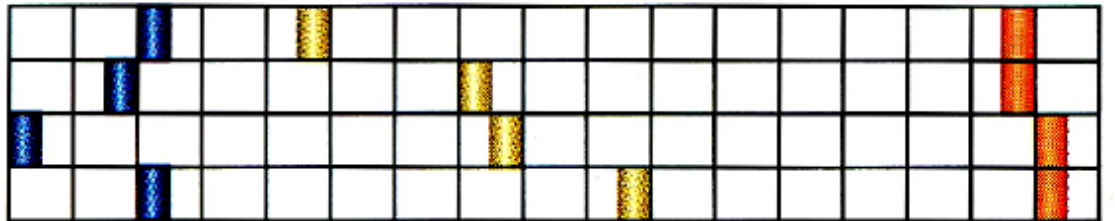


圖4-1-14 安哥拉 (Angola) 深水礦區油田之生產計劃、開發設施。

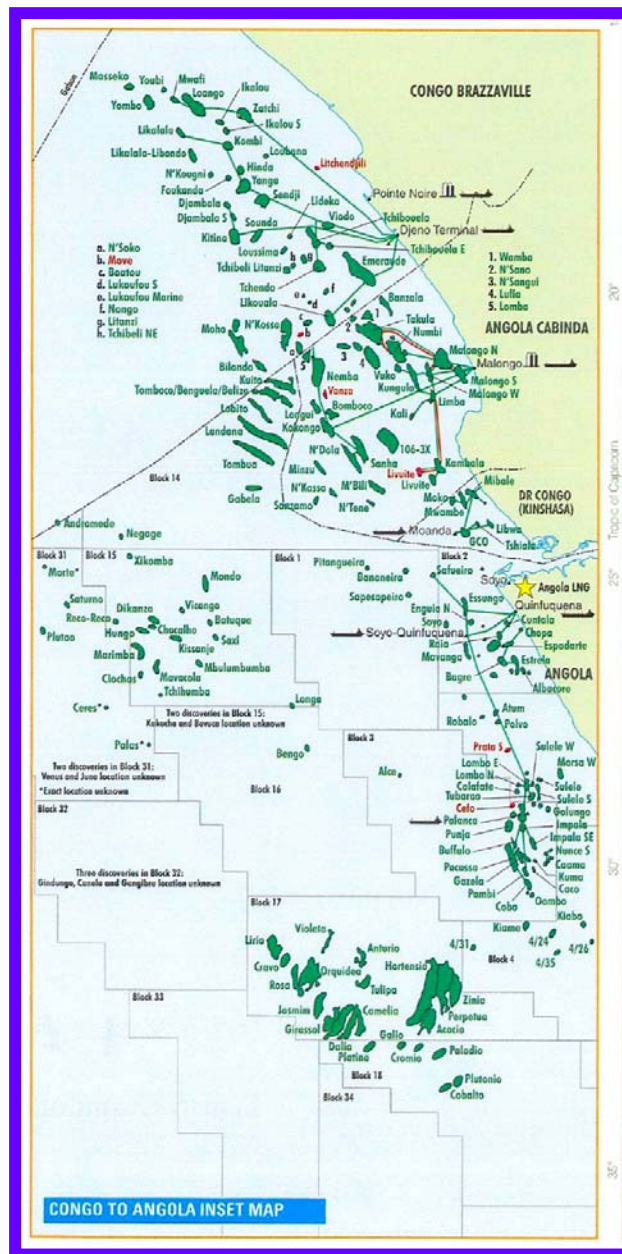
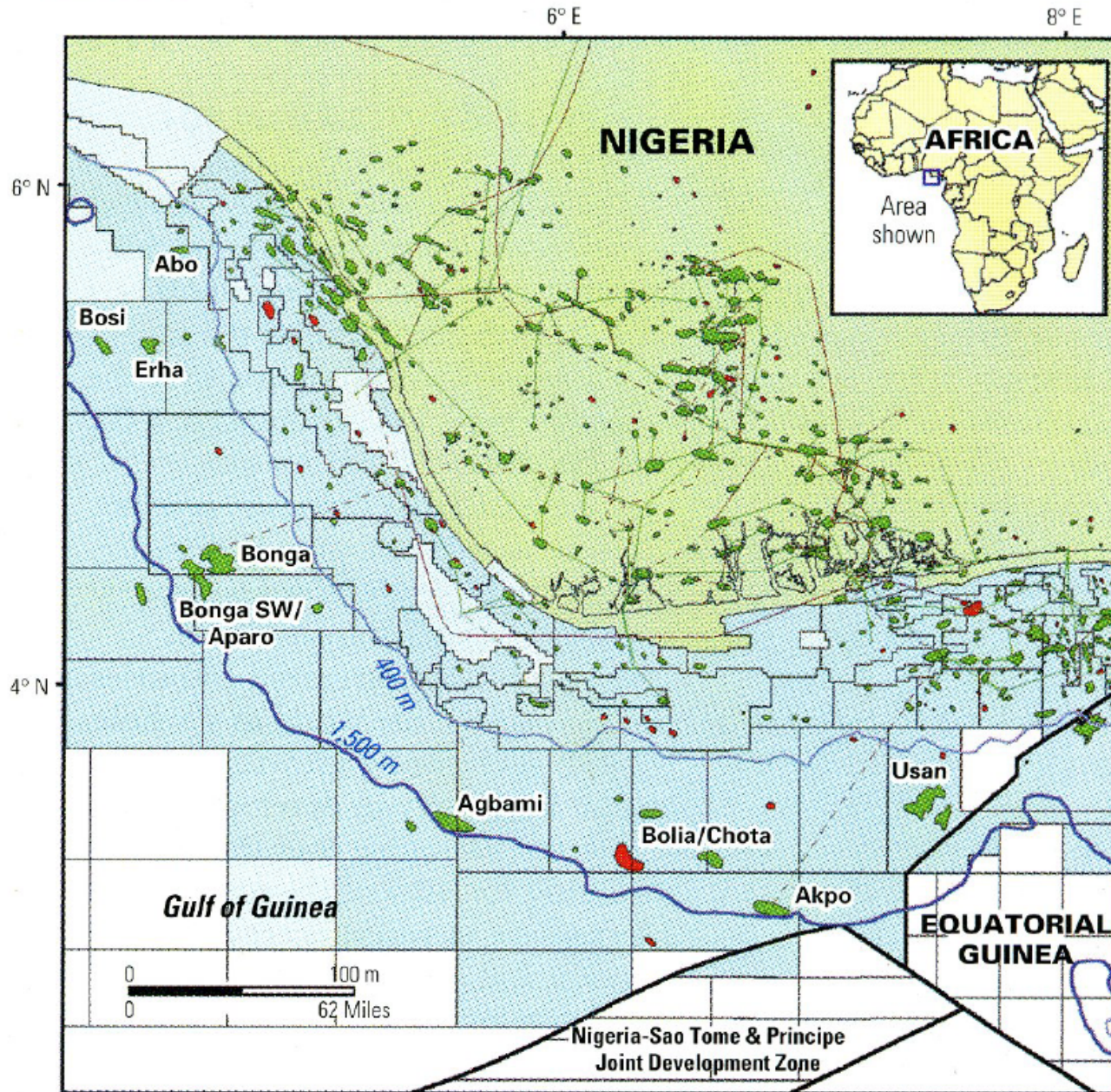


圖4-1-15安哥拉及剛果礦區之油田分佈。





ood MacKenzie

圖4-1-16 奈及利亞 (Nigeria) 油田

# NIGERIA

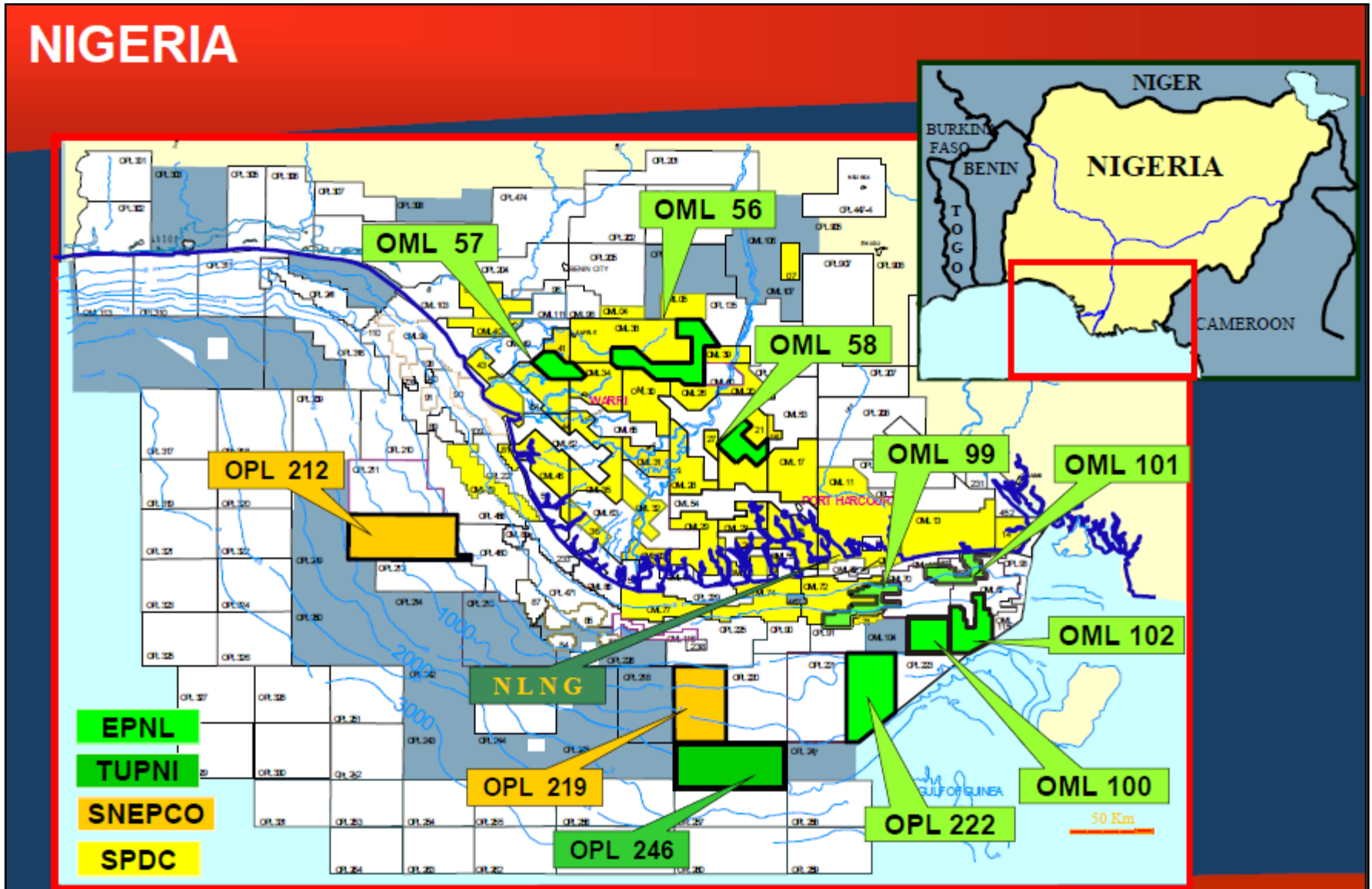


圖4-1-17 奈及利亞（Nigeria）油田分佈開發狀況及礦區位置



'000 b/d

<b>Field</b>	<b>Operator</b>	<b>Production</b>	<b>Start-up</b>
Bonga	Shell	225	2005
Erha	ExxonMobil	150	2006
Bosi	ExxonMobil	50	2007
Agbami	Shell	250	2008
Bonga-SW	Shell	145	na
Akpo	Total	na	na
Usan	Total	205	na
<b>Forecast</b>		<b>1,025</b>	

*Source:* NNPC

圖4-1-18 奈及利亞（Nigeria）各深水礦區油田之產量

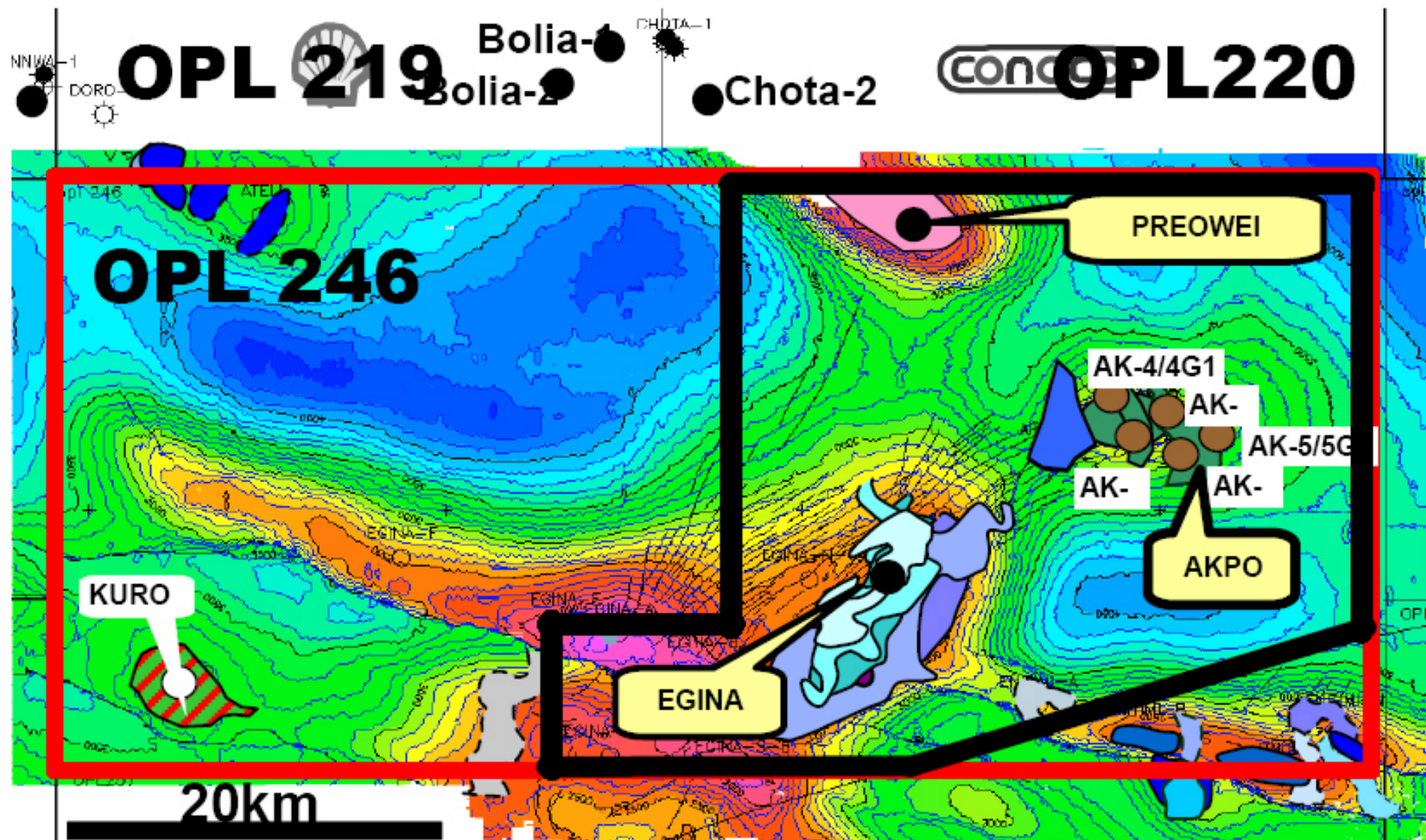


圖4-1-19—Petrobra公司所屬OPL 220礦區之Akpo、Egina及Preowei油田之位置；  
OPL 246礦區之Kuro油田位置及其地下構造圖。

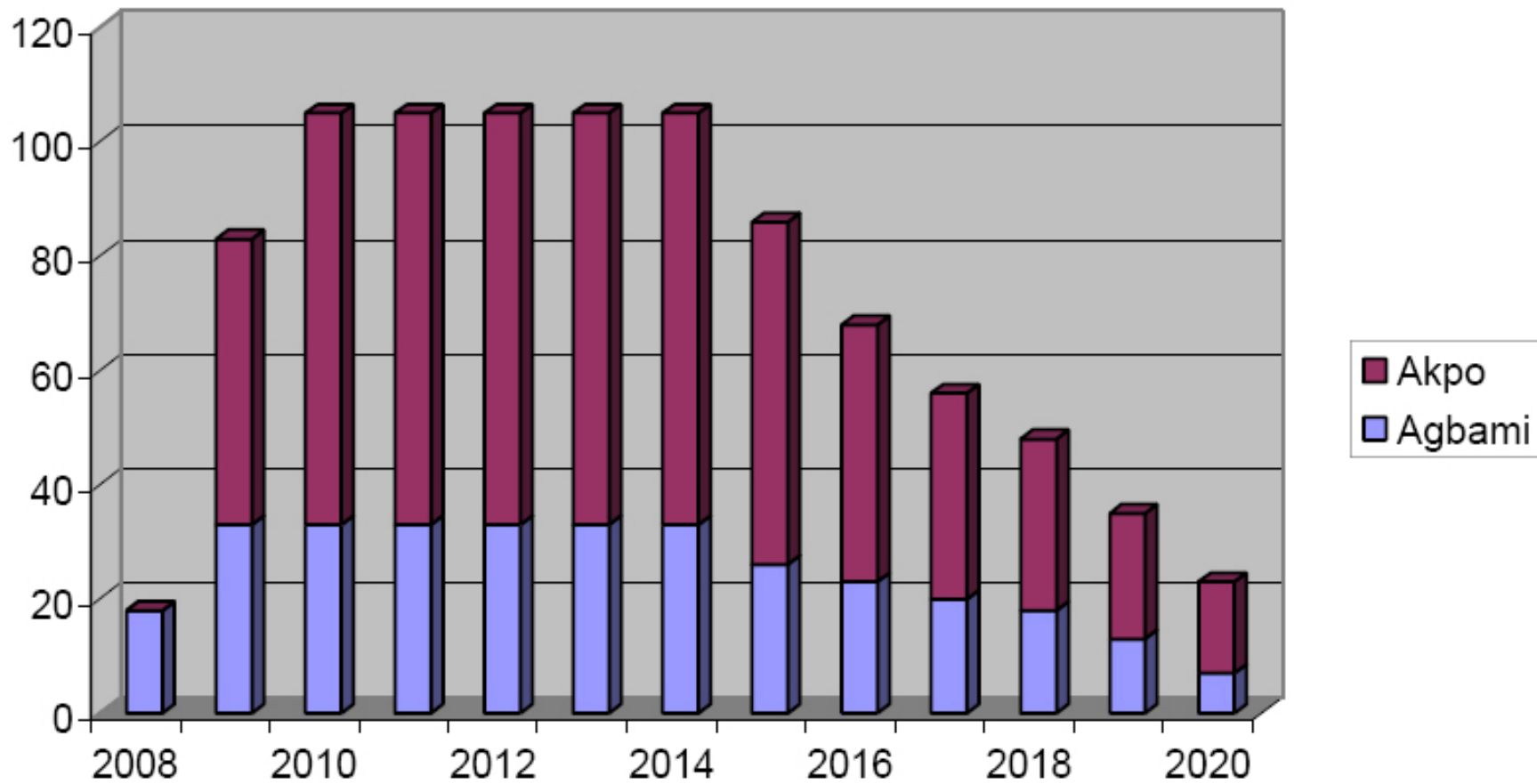


Figure 5. Petrobras average production in Nigeria.

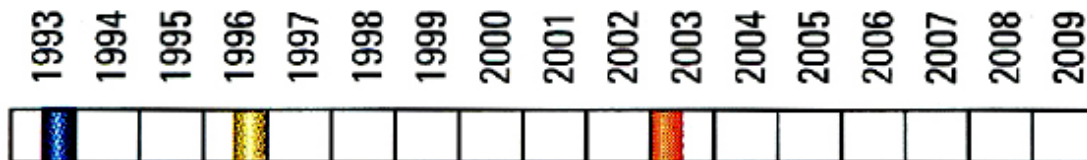
圖4-1-20 奈及利亞（**Nigeria**）深水礦區**Petrobas** 油田



## Nigeria

### On stream projects

Abo (Eni)



### Projects under development

Bonga (Shell)

Erha (XOM)

Agbami (CVX)

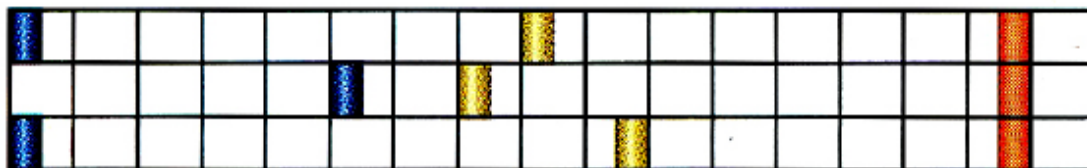


### Probable developments

Bonga SW/Aparo (Shell/CVX)

Akpo (Total)

Usan (Total)



\*Developments expected on stream by 2009.

Source: Wood MacKenzie

圖4-1-21 奈及利亞 (Nigeria) 深水礦區油田之生產計劃、開發設施



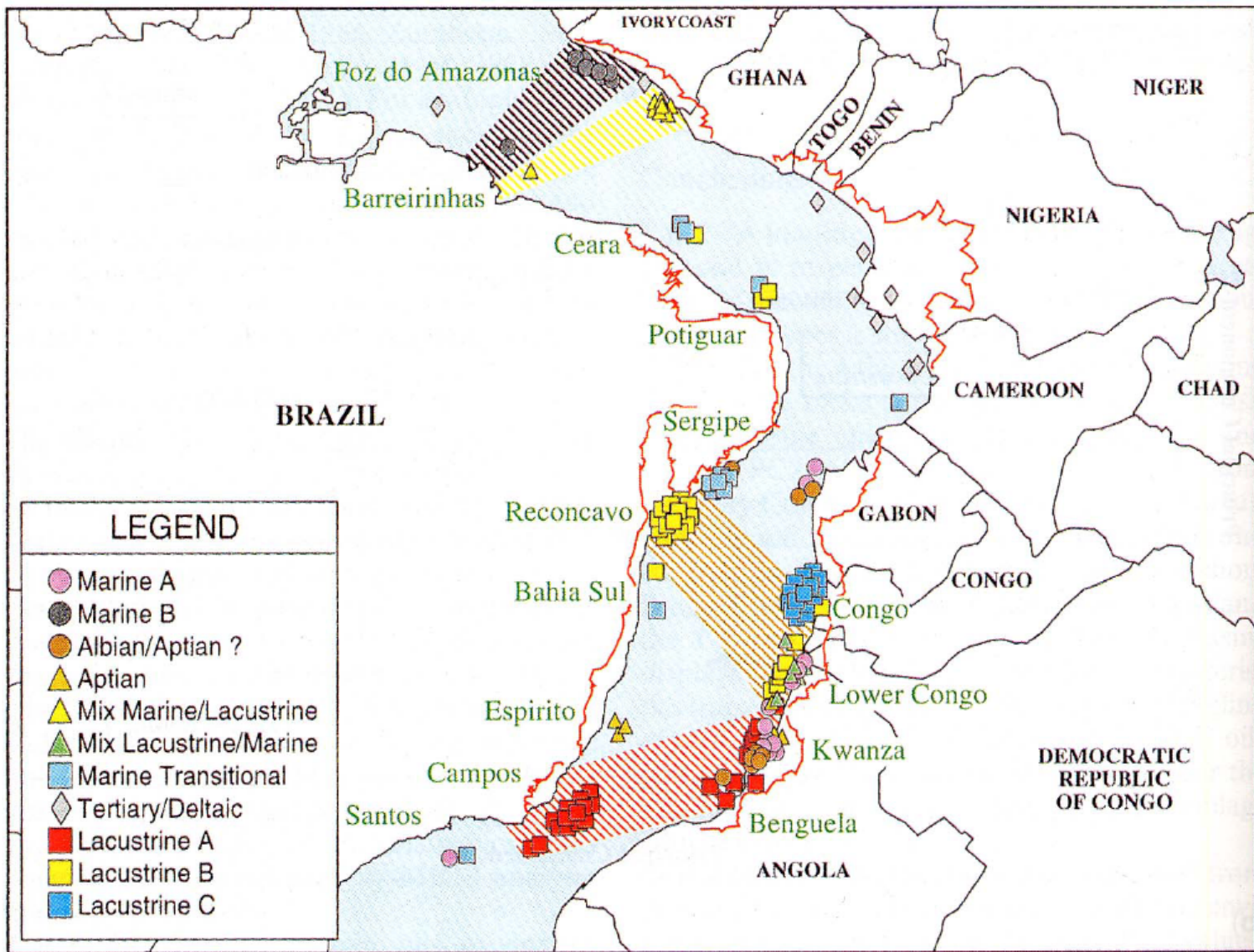


圖4-1-22 非洲海域大西洋盆地兩岸之油氣儲聚條件及油氣潛能應相似。

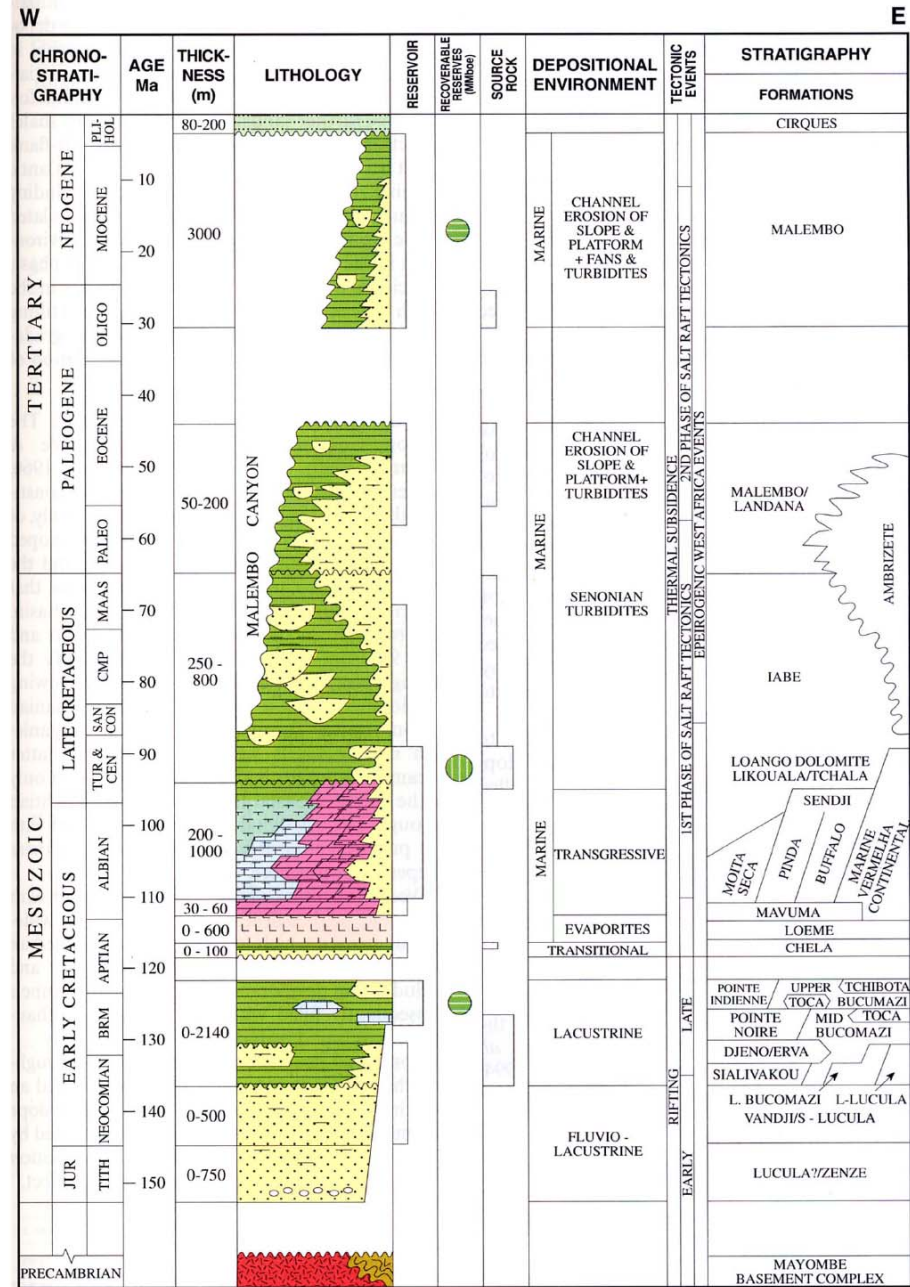
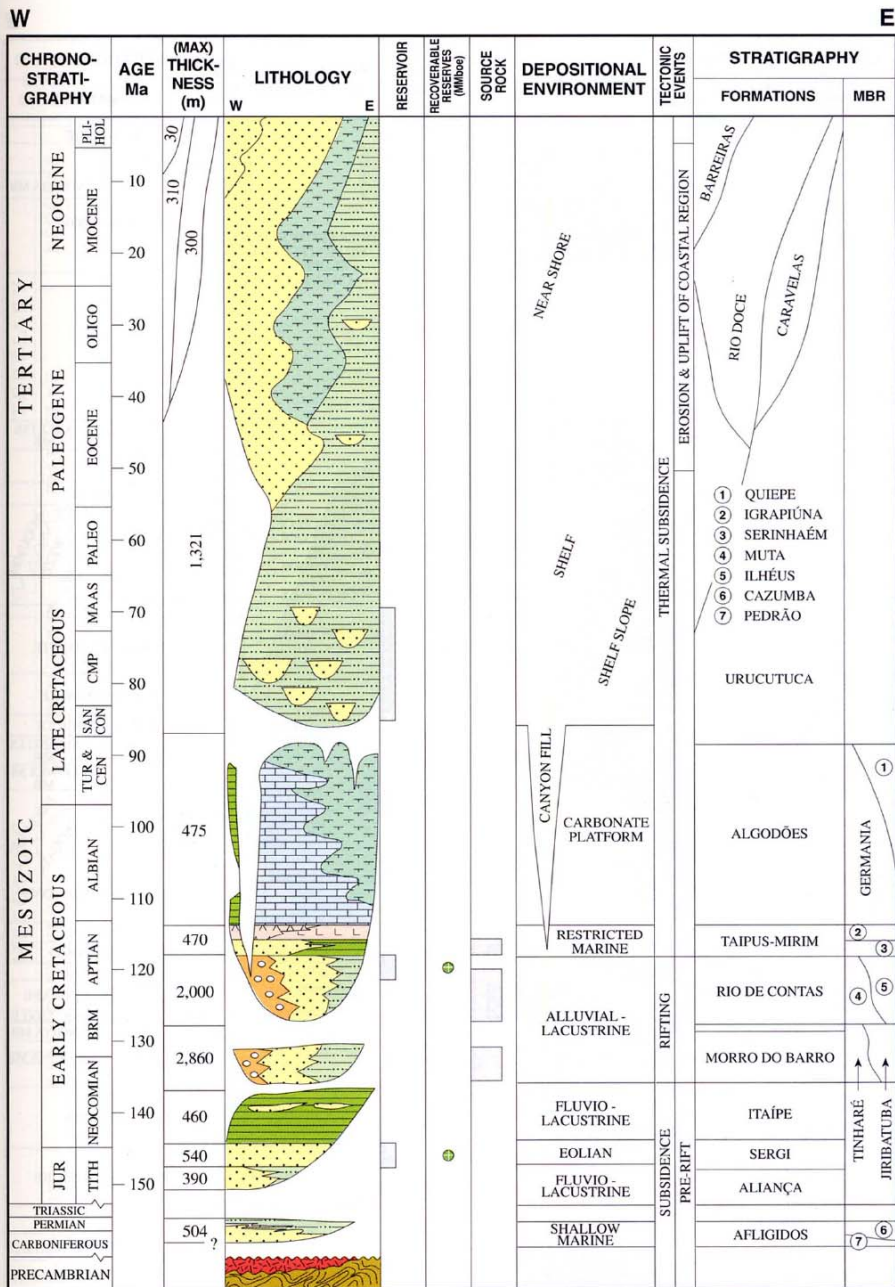


Fig. 8. Stratigraphy, depositional environment and hydrocarbon reserves of: (a) the Almada-Camamu Basin; (b) the Gabon Coastal Basin.

圖4-1-23非洲海域大西洋盆地兩岸之油氣儲聚條件比較。



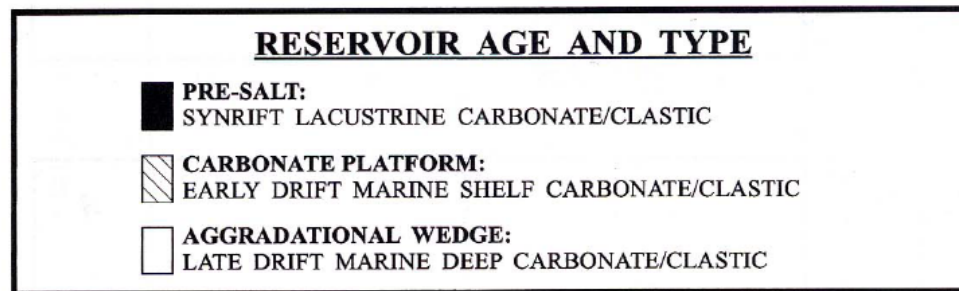
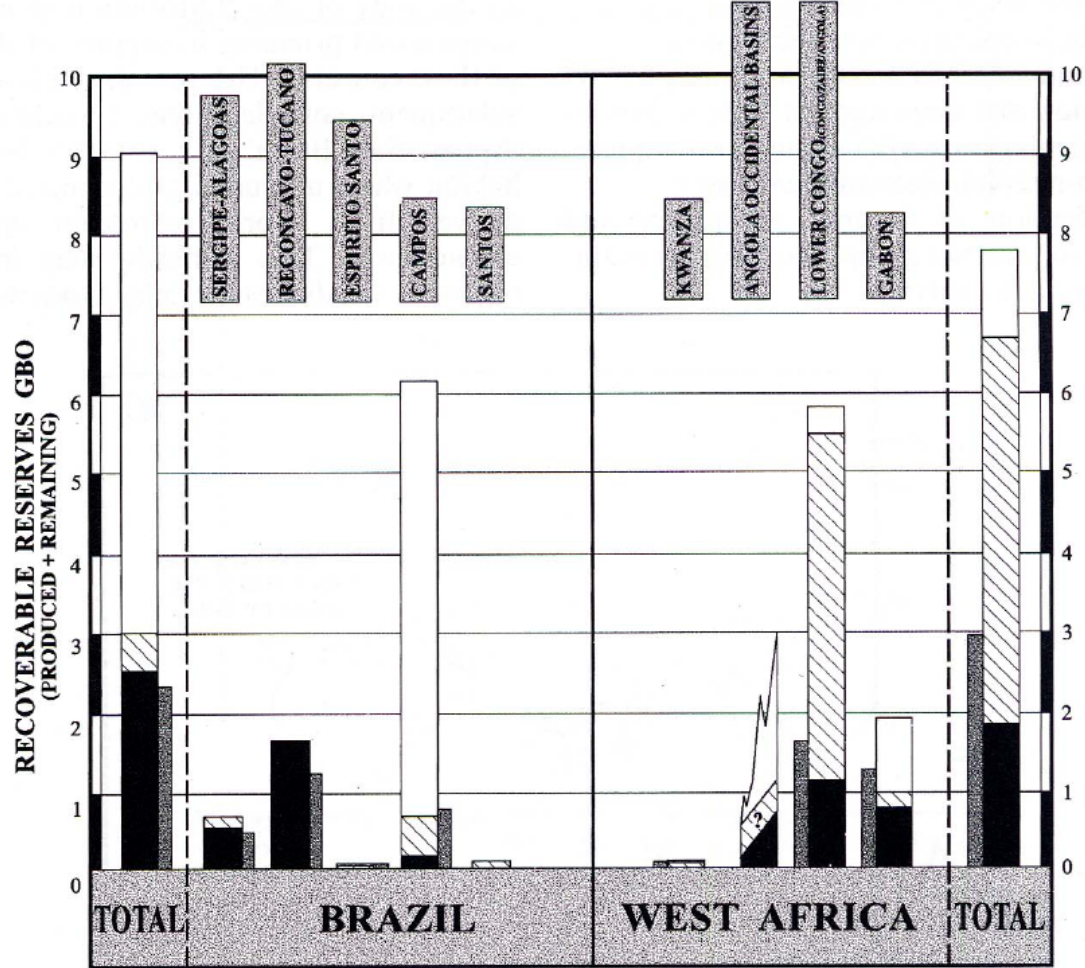


圖4-1-24 非洲海域大西洋盆地兩岸之油氣蘊藏量

## Future oil and gas deepwater potential in the world

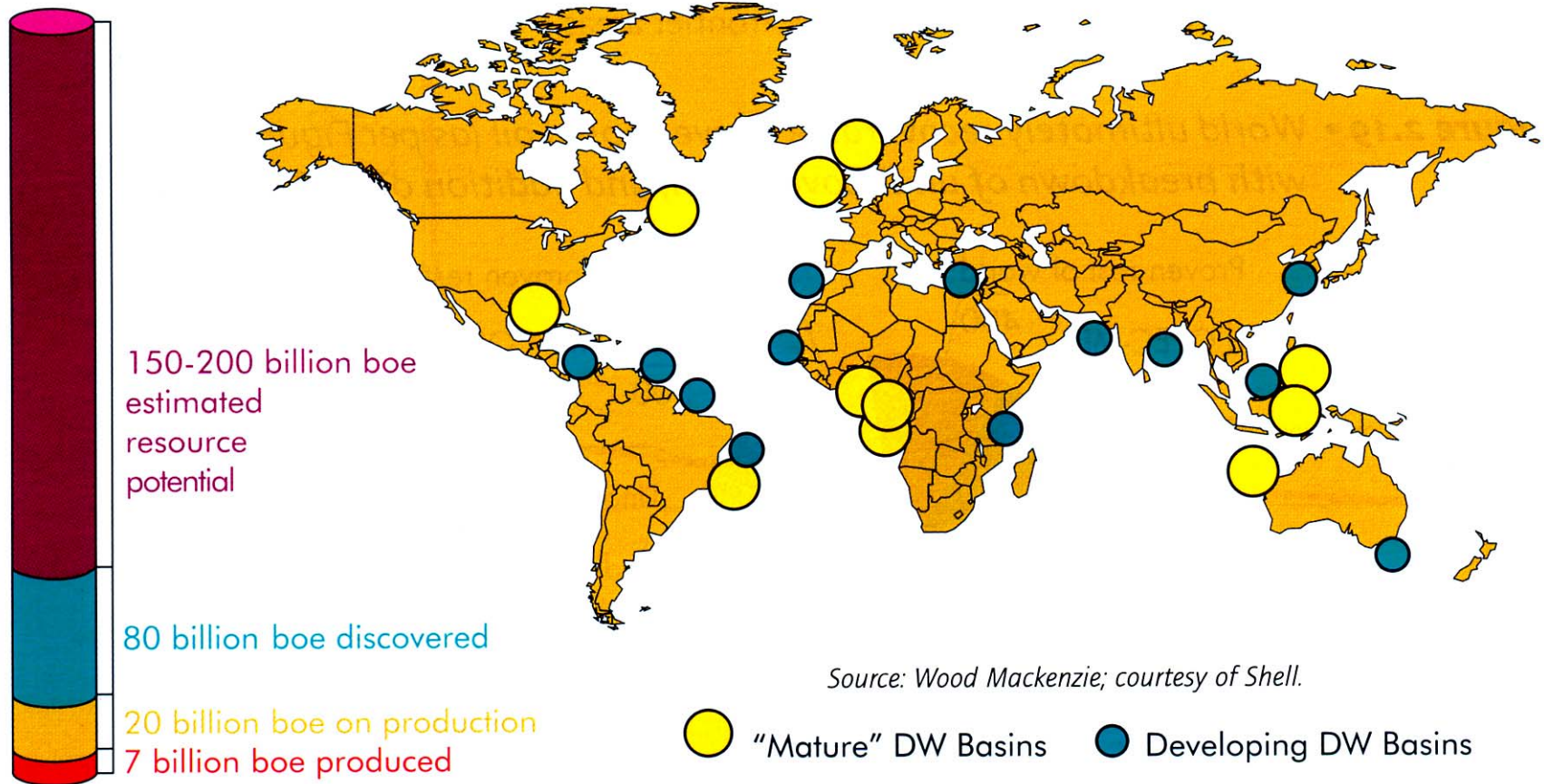


圖4-1-25 世界主要深水區探勘及其未來油氣潛能區。



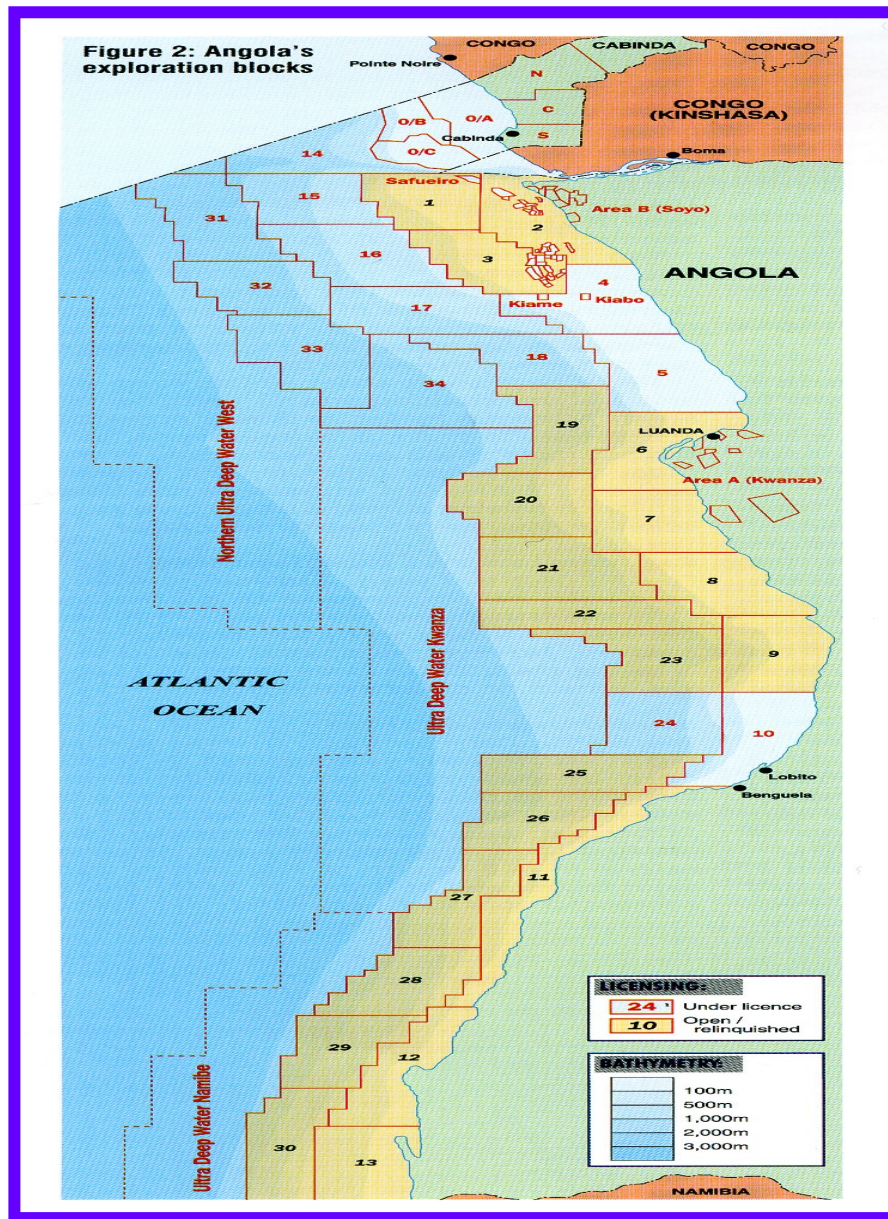


圖4-1-26 非洲海域主要深水區探勘及其未來油氣潛能區。



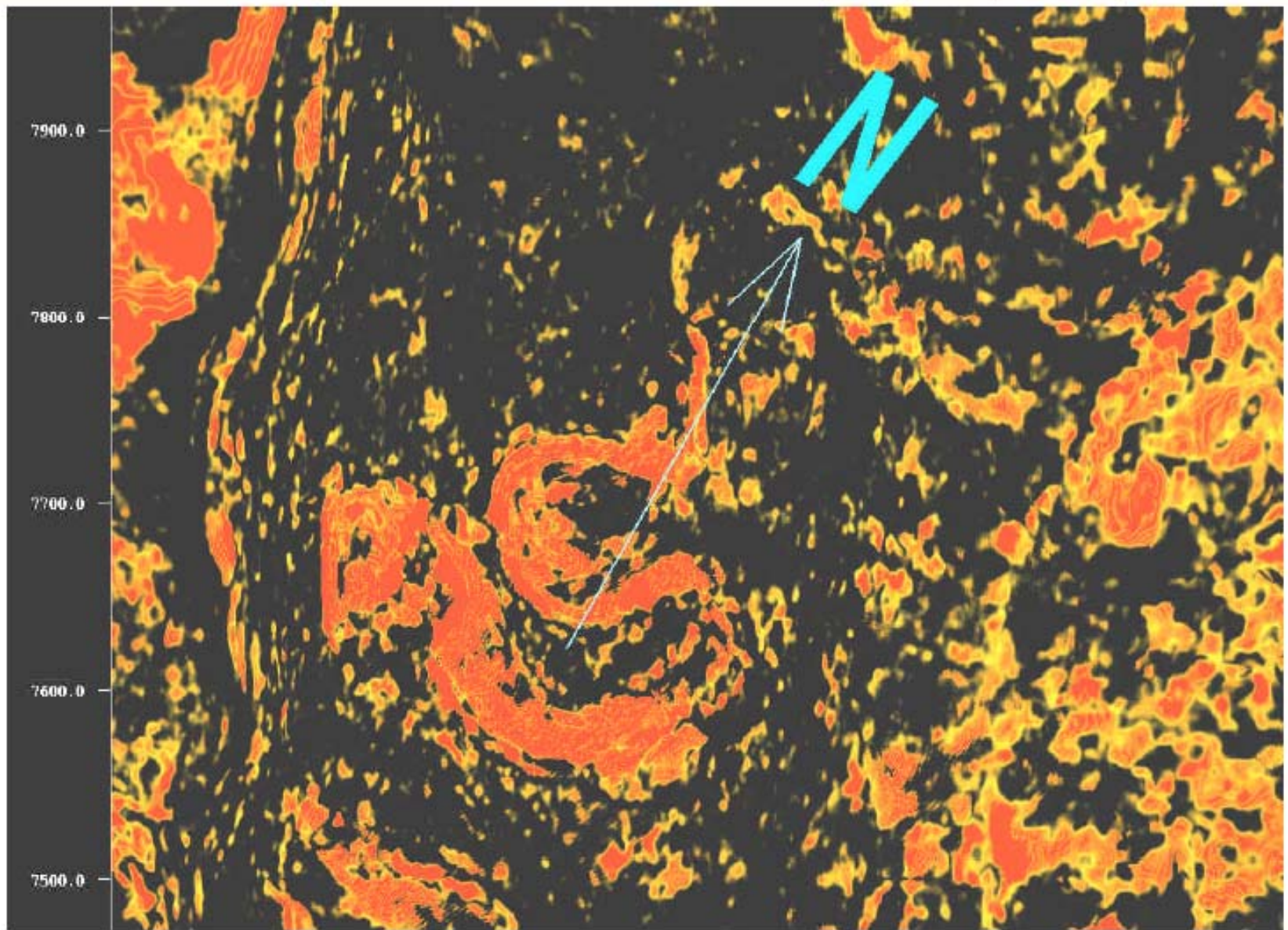
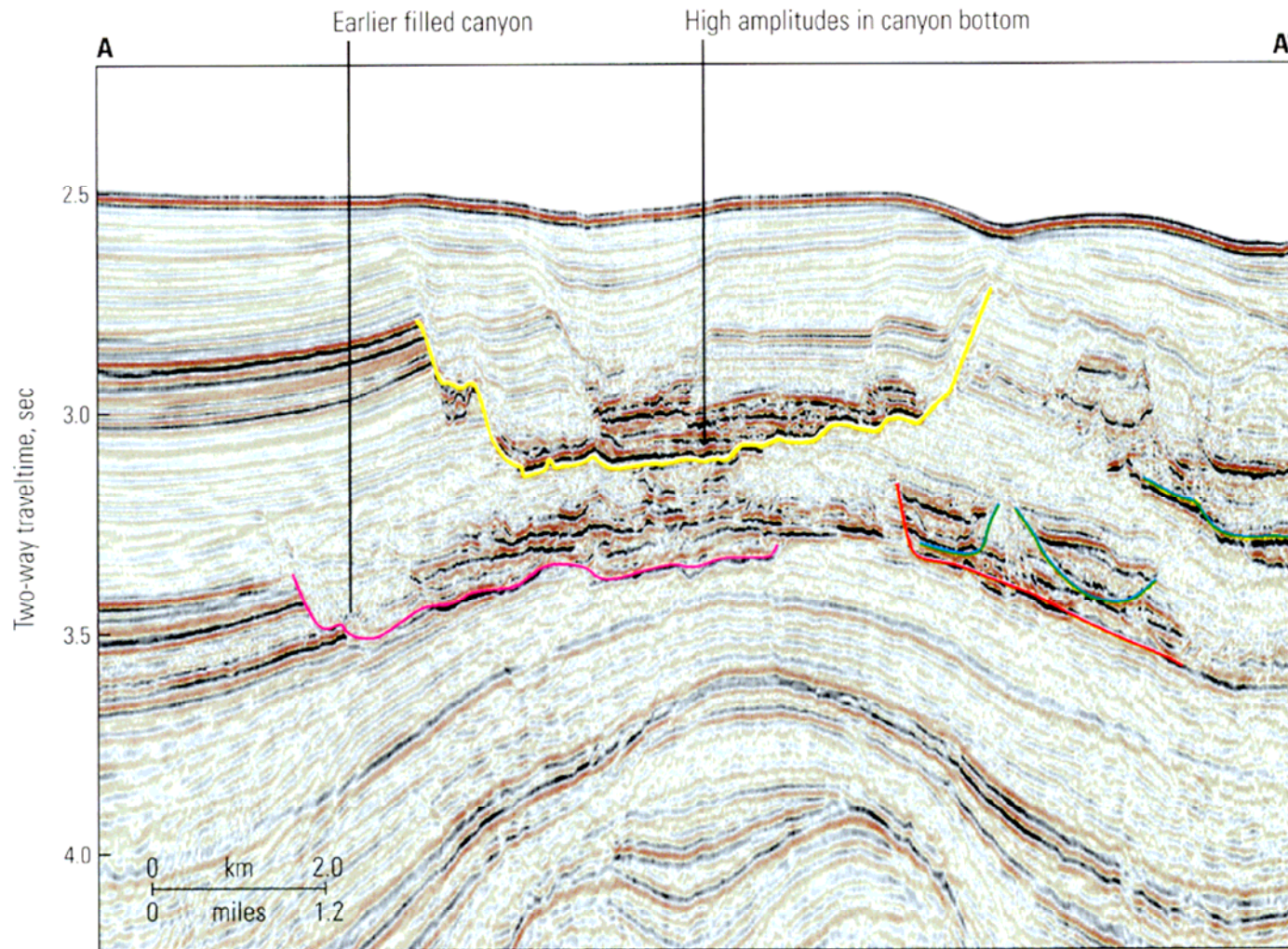


圖4-1-27 奈及利亞大量採用3D震測，成果良好。





^ An interpreted seismic line showing a canyon (yellow) filled and preserved south of the Kwanza

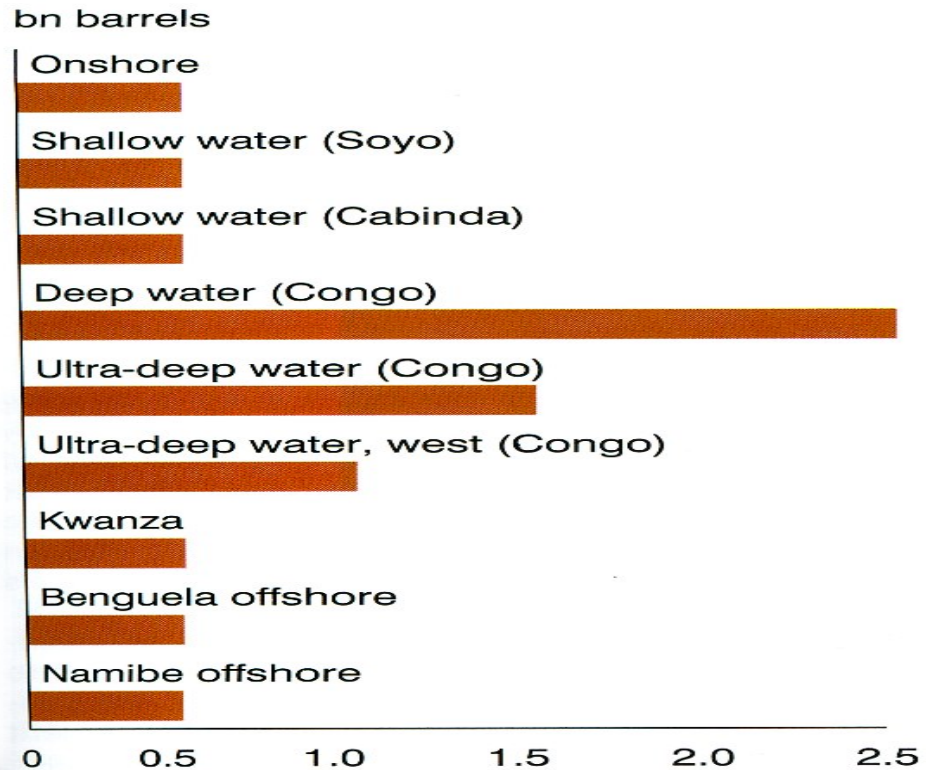
圖4-1-28 震測品質之改善，因而提升平均鑽探成功率。

**Table 1: Angola – oil statistics, 2004**

Reserves (bn barrels)	8.8
Production (million b/d)	1.0
Reserves:production ratio	24.3

*Source: BP Statistical Review of World Energy*

**Figure 1: Angola – estimated remaining probable oil reserves**



**圖4-1-29** 安哥拉2004年之油氣蘊藏，及西非各國預估可能尚餘之油氣蘊藏(包括深水礦區)。



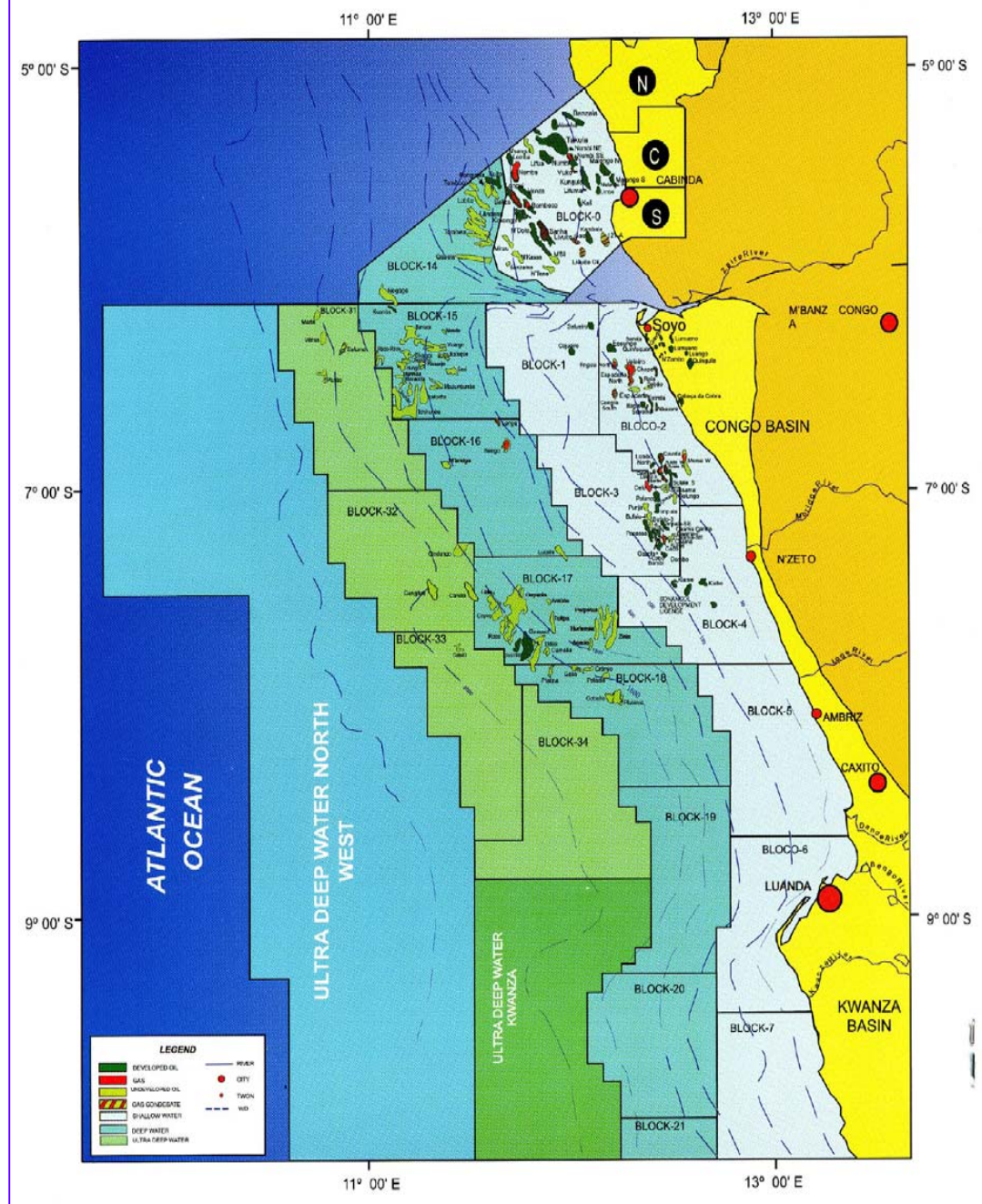


圖4-1-30 Angola及Congo深水及超深水最具未來潛能區塊，及各區塊之油氣田