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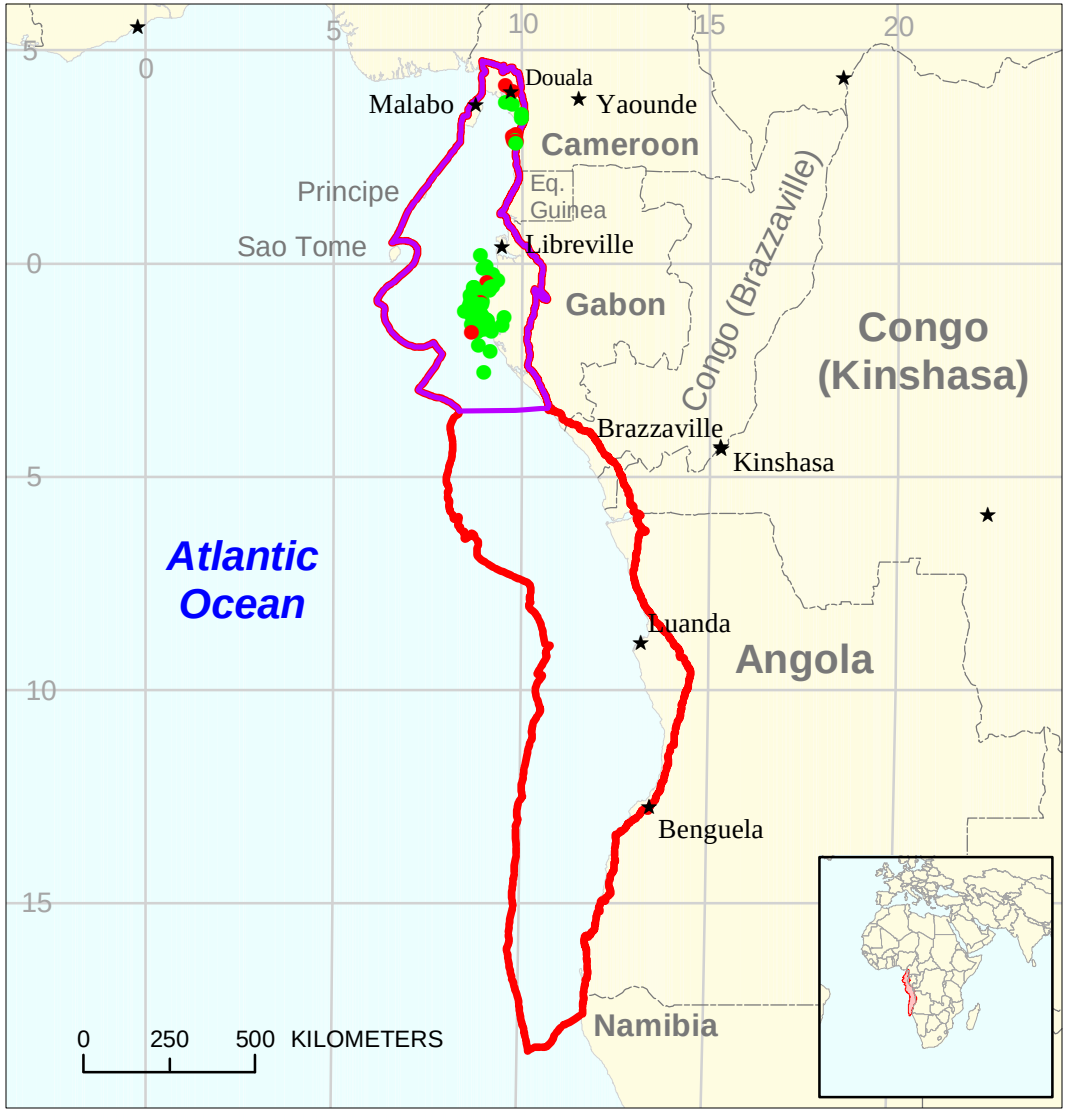
Gabon Suprasalt
Assessment Unit 72030201



Geologic Summary

Detailed map of this assessment unit

Exploration/Discovery-History Data

- Plots of Known Field Sizes
- Plots of Grown Resources
- Tables

Assessment Input Data

Assessment Results

- Assessment Unit Summary
- Detailed Assessment Results
- Undiscovered Field-Size Distributions

USGS PROVINCE: West-Central Coastal (7203)

GEOLOGISTS: R.R. Charpentier and M.E. Brownfield

TOTAL PETROLEUM SYSTEM: Azile-Senonian (720302)

ASSESSMENT UNIT: Gabon Suprasalt (72030201)

DESCRIPTION: Suprasalt source rocks and reservoirs north of the thick Tertiary Congo Delta.

SOURCE ROCKS: Marine shales of the Turonian Azile Formation with average 3 to 5 percent TOC. Mainly intermediate Type I-Type II kerogen. Possible contribution from shales in Cap Lopez and Madiela Formations. Oils are paraffinic.

MATURATION: Miocene? to Recent

MIGRATION: Miocene? to Recent

RESERVOIR ROCKS: Mainly turbidite sandstones of the Senonian Anguille, Pointe Clarette, and Batanga Formations. Possible Miocene turbidite reservoirs in deeper water offshore. Porosities average 23 percent and permeabilities average 1500 mD.

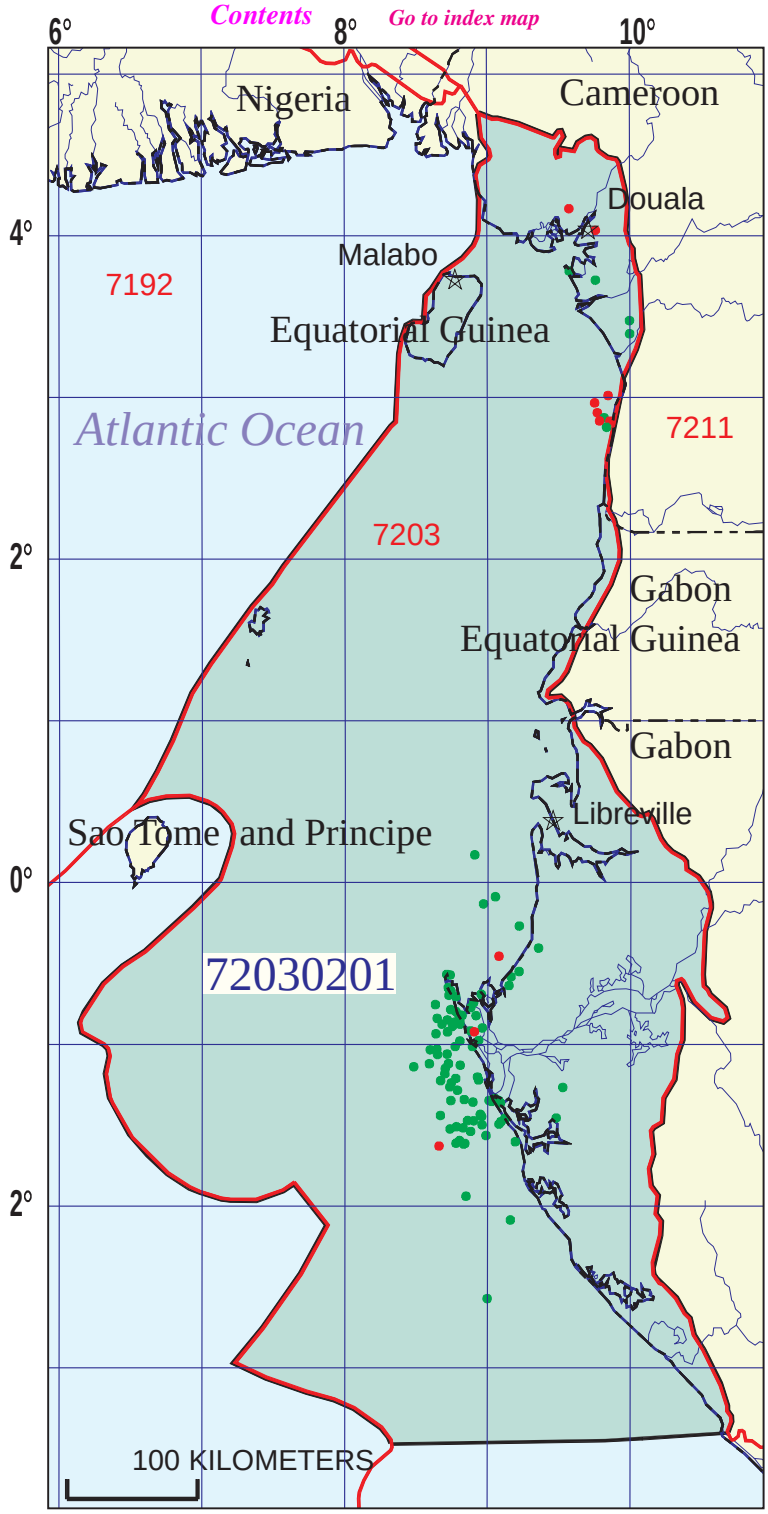
TRAPS AND SEALS: Most traps are salt-related, primarily nonpiercement domes or turtles, sealed by shales.

REFERENCES:

Brink, A.H., 1974, Petroleum geology of Gabon basin: American Association of Petroleum Geologists Bulletin, v. 58, no. 2, p. 216-235.

Nguene, François-Roger, Tamfu, Simon, Loule, Jean-Pierre, and Ngassa, Célestin, 1992, Palaeoenvironments of the Douala and Kribi/Campo subbasins in Cameroon, west Africa, *in* Curnelle, R., ed., Géologie Africaine, 1er Colloque de Stratigraphie et de Paléogéographie des Bassins Sédimentaires Ouest-Africains, 2e Colloque Africain de Micropaléontologie, Libreville, Gabon, 1991, Recueil des Communications: Boussens, Elf Aquitaine, p.129-139.

Teisserenc, P., and Villemin, J., 1989, Sedimentary basin of Gabon—Geology and oil systems, *in* Edwards, J.D., and Santogrossi, P.A., Divergent/passive margin basins: American Association of Petroleum Geologists Memoir 48, p. 117-199.



Gabon Suprasalt
Assessment Unit - 72030201

EXPLANATION

- Hydrography
- Shoreline
- 7203 Geologic province code and boundary
- Country boundary
- Gas field centerpoint
- Oil field centerpoint
- 72030201 Assessment unit code and boundary

Projection: Robinson. Central meridian: 0

SEVENTH APPROXIMATION
NEW MILLENNIUM WORLD PETROLEUM ASSESSMENT
DATA FORM FOR CONVENTIONAL ASSESSMENT UNITS

Date:……..	9/21/99		
Assessment Geologist:……..	R.R. Charpentier and M.E. Brownfield		
Region:……..	Sub-Saharan Africa and Antarctica	Number:	7
Province:……..	West-Central Coastal	Number:	7203
Priority or Boutique……	Priority		
Total Petroleum System:……	Azile-Senonian	Number:	720302
Assessment Unit:……..	Gabon Suprasalt	Number:	72030201
* Notes from Assessor	MMS growth function.		

CHARACTERISTICS OF ASSESSMENT UNIT

Oil (<20,000 cfg/bo overall) **or** Gas (≥20,000 cfg/bo overall):… Oil

What is the minimum field size?……. 1 mmboe grown (≥1mmboe)
(the smallest field that has potential to be added to reserves in the next 30 years)

Number of discovered fields exceeding minimum size:…… Oil: 70 Gas: 7
Established (>13 fields) X Frontier (1-13 fields) _____ Hypothetical (no fields) _____

Median size (grown) of discovered oil fields (mmboe):
1st 3rd 10.5 2nd 3rd 15.9 3rd 3rd 21.6
Median size (grown) of discovered gas fields (bcfg):
1st 3rd 49.7 2nd 3rd 7.2 3rd 3rd _____

Assessment-Unit Probabilities:

Attribute	Probability of occurrence (0-1.0)
1. **CHARGE:** Adequate petroleum charge for an undiscovered field ≥ minimum size……	1.0
2. **ROCKS:** Adequate reservoirs, traps, and seals for an undiscovered field ≥ minimum size……	1.0
3. **TIMING OF GEOLOGIC EVENTS:** Favorable timing for an undiscovered field ≥ minimum size	1.0

Assessment-Unit GEOLOGIC Probability (Product of 1, 2, and 3):…….. 1.0

4. **ACCESSIBILITY:** Adequate location to allow exploration for an undiscovered field ≥ minimum size…… 1.0

UNDISCOVERED FIELDS

Number of Undiscovered Fields: How many undiscovered fields exist that are ≥ minimum size?:
(uncertainty of fixed but unknown values)

Oil fields:……min. no. (>0)	15	median no.	100	max no.	250
Gas fields:……min. no. (>0)	2	median no.	35	max no.	75

Size of Undiscovered Fields: What are the anticipated sizes (**grown**) of the above fields?:
(variations in the sizes of undiscovered fields)

Oil in oil fields (mmbo)……min. size	1	median size	8	max. size	3500
Gas in gas fields (bcfg):……min. size	6	median size	40	max. size	10000

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AVERAGE RATIOS FOR UNDISCOVERED FIELDS, TO ASSESS COPRODUCTS

(uncertainty of fixed but unknown values)

Oil Fields:	minimum	median	maximum
Gas/oil ratio (cfg/bo)……	700	1400	2100
NGL/gas ratio (bngl/mmcfg)……	25	50	75

Gas fields:	minimum	median	maximum
Liquids/gas ratio (bngl/mmcfg)……	22	44	66
Oil/gas ratio (bo/mmcfg)……			

SELECTED ANCILLARY DATA FOR UNDISCOVERED FIELDS

(variations in the properties of undiscovered fields)

Oil Fields:	minimum	median	maximum
API gravity (degrees)……	12	30	55
Sulfur content of oil (%)……	0.07	0.35	0.9
Drilling Depth (m) ……	400	1750	4000
Depth (m) of water (if applicable)……	0	200	3500

Gas Fields:	minimum	median	maximum
Inert gas content (%)……			
CO_2 content (%)……			
Hydrogen-sulfide content (%)……			
Drilling Depth (m)……	400	1800	5000
Depth (m) of water (if applicable)……	0	200	4000

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ALLOCATION OF UNDISCOVERED RESOURCES IN THE ASSESSMENT UNIT TO COUNTRIES OR OTHER LAND PARCELS (uncertainty of fixed but unknown values)

1. Cameroon represents 8 areal % of the total assessment unit

Oil in Oil Fields:	minimum	median	maximum
Richness factor (unitless multiplier):……			
Volume % in parcel (areal % x richness factor):…		5	
Portion of volume % that is offshore (0-100%)……		55	

Gas in Gas Fields:	minimum	median	maximum
Richness factor (unitless multiplier):……			
Volume % in parcel (areal % x richness factor):…		8	
Portion of volume % that is offshore (0-100%)……		55	

2. Equatorial Guinea represents 29 areal % of the total assessment unit

Oil in Oil Fields:	minimum	median	maximum
Richness factor (unitless multiplier):……			
Volume % in parcel (areal % x richness factor):…		12	
Portion of volume % that is offshore (0-100%)……		100	

Gas in Gas Fields:	minimum	median	maximum
Richness factor (unitless multiplier):……			
Volume % in parcel (areal % x richness factor):…		10	
Portion of volume % that is offshore (0-100%)……		100	

3. Gabon represents 63 areal % of the total assessment unit

Oil in Oil Fields:	minimum	median	maximum
Richness factor (unitless multiplier):……			
Volume % in parcel (areal % x richness factor):…		83	
Portion of volume % that is offshore (0-100%)……		90	

Gas in Gas Fields:	minimum	median	maximum
Richness factor (unitless multiplier):……			
Volume % in parcel (areal % x richness factor):…		82	
Portion of volume % that is offshore (0-100%)……		90	

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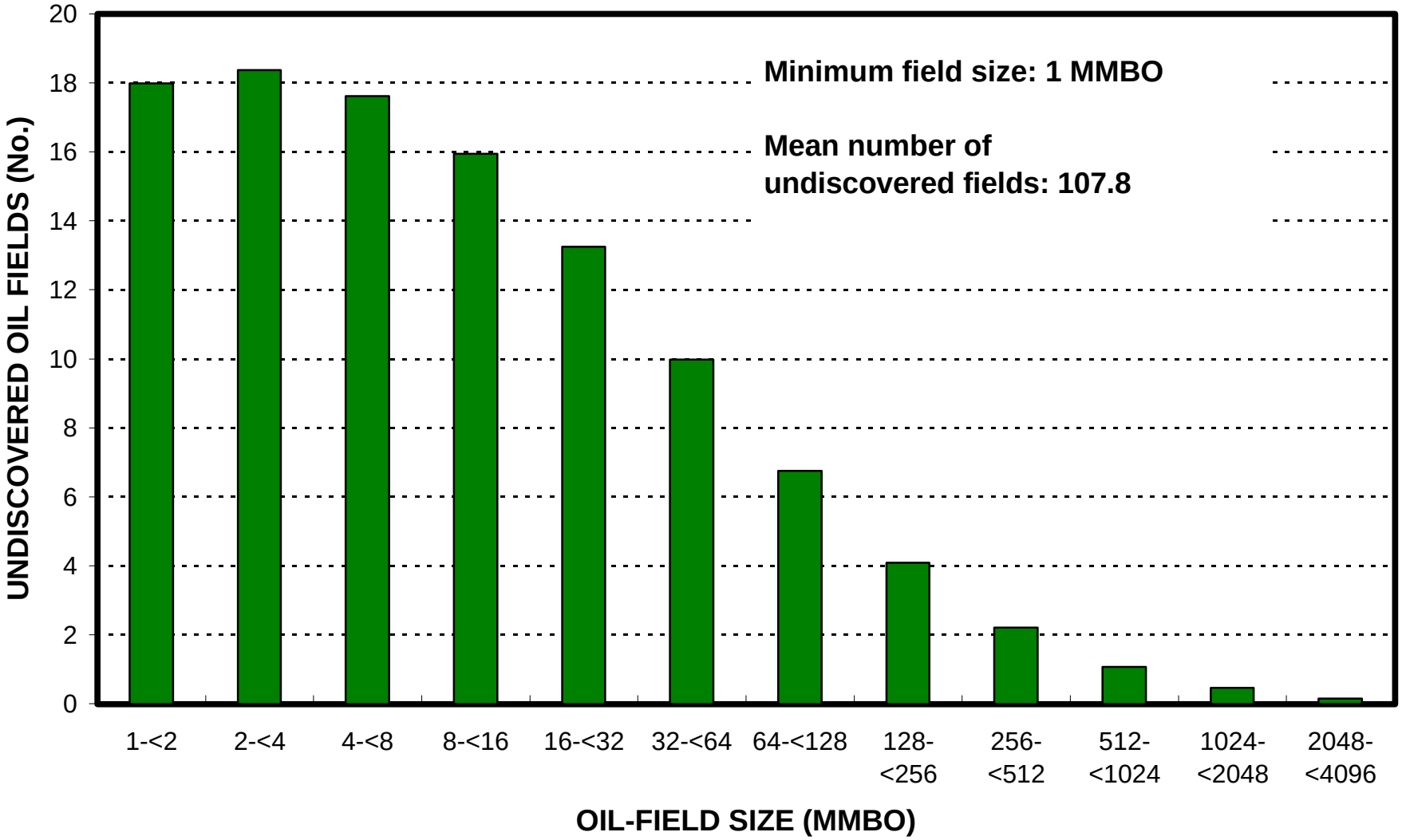
Undiscovered Field-Size Distribution



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Undiscovered Field-Size Distribution