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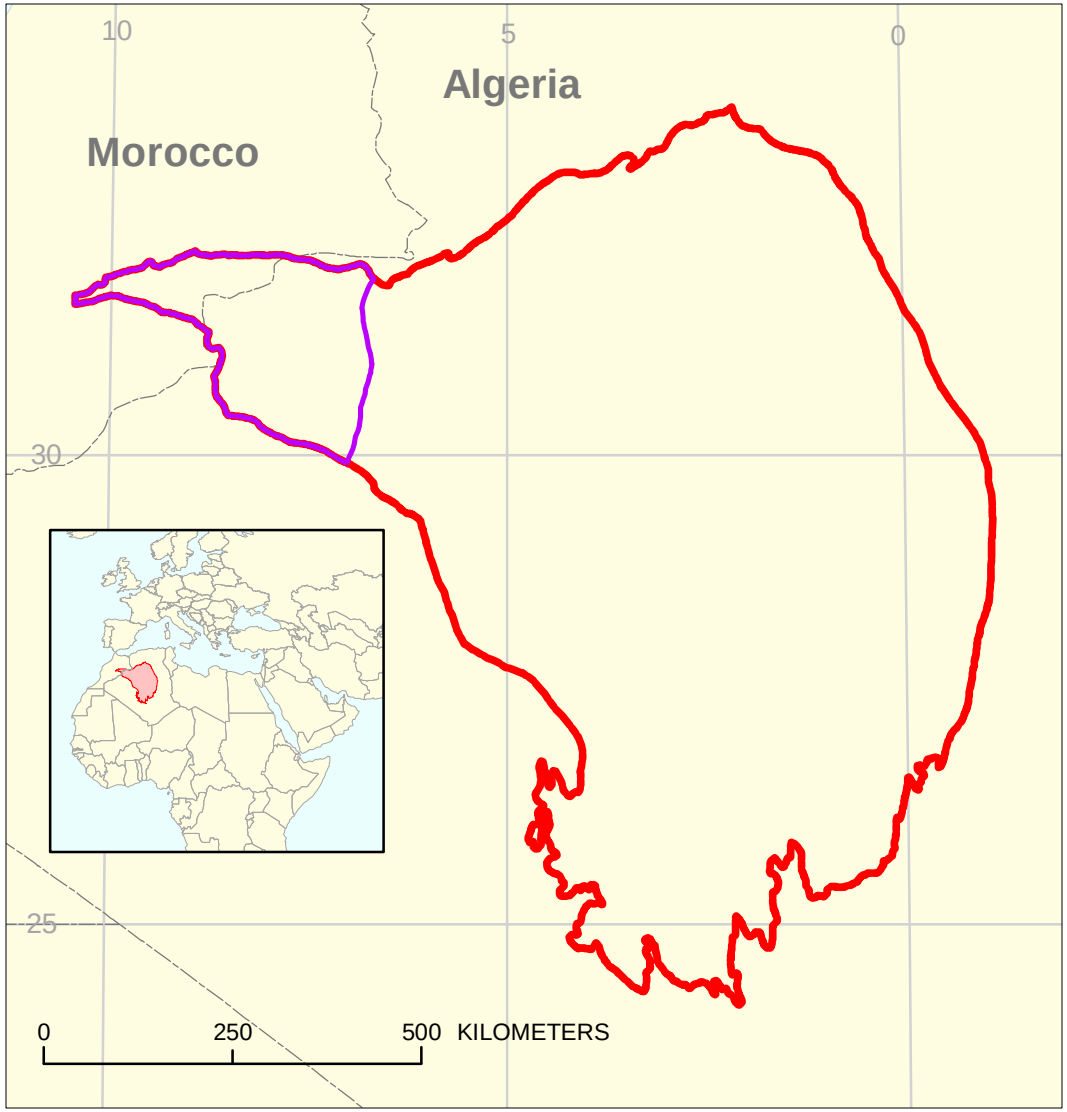
Tanezzuft-Bechar/Abadla Structural/Stratigraphic Assessment Unit 20580601



Tanezzuft-Bechar/Abadla Structural/Stratigraphic Assessment Unit 20580601

Grand Erg/Ahnet Basin Geologic Province 2058

Geologic Summary

Detailed map of this assessment unit

Assessment Input Data

Assessment Results

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

USGS PROVINCE: Grand Erg/Ahnet Basin (2058) **GEOLOGIST:** T.R. Klett

TOTAL PETROLEUM SYSTEM: Tanezzuft-Béchar/Abadla (205806)

ASSESSMENT UNIT: Tanezzuft-Béchar/Abadla Structural/Stratigraphic (20580601)

DESCRIPTION: This total petroleum system and corresponding assessment unit coincide with the Béchar and Abadla Basins. The Béchar and Abadla Basins are treated collectively. The Béchar/Abadla Basin is bounded on the north by the Antiatlas Range, on the east by the Ensellement Zousfana (Zousfana Saddle)-Meharez Dome-Ensellement Beni Abbes (or Beni Abbes Saddle) structural axis, and on the south and west by the Ougarta Range.

SOURCE ROCKS: Potential source rocks are Silurian (laterally equivalent to the Tanezzuft Formation) and Middle to Upper Devonian mudstone.

MATURATION AND MIGRATION: Petroleum generation may have occurred during the Carboniferous. Presently in the central part of the basin, potential source rocks are deeply buried (as much as 5,000 m).

RESERVOIR ROCKS: Potential reservoir rocks are Cambrian-Ordovician fluvial to marine sandstone and Devonian nearshore marine sandstone. Additionally, Wausortian-type bioherm mounds of Carboniferous (Visean) age may provide reservoir potential.

TRAPS/SEALS: Potential trap types include anticlines and faulted anticlines, some possibly having stratigraphic components. Intraformational Paleozoic marine mudstone is the most likely primary seal.

REFERENCES:

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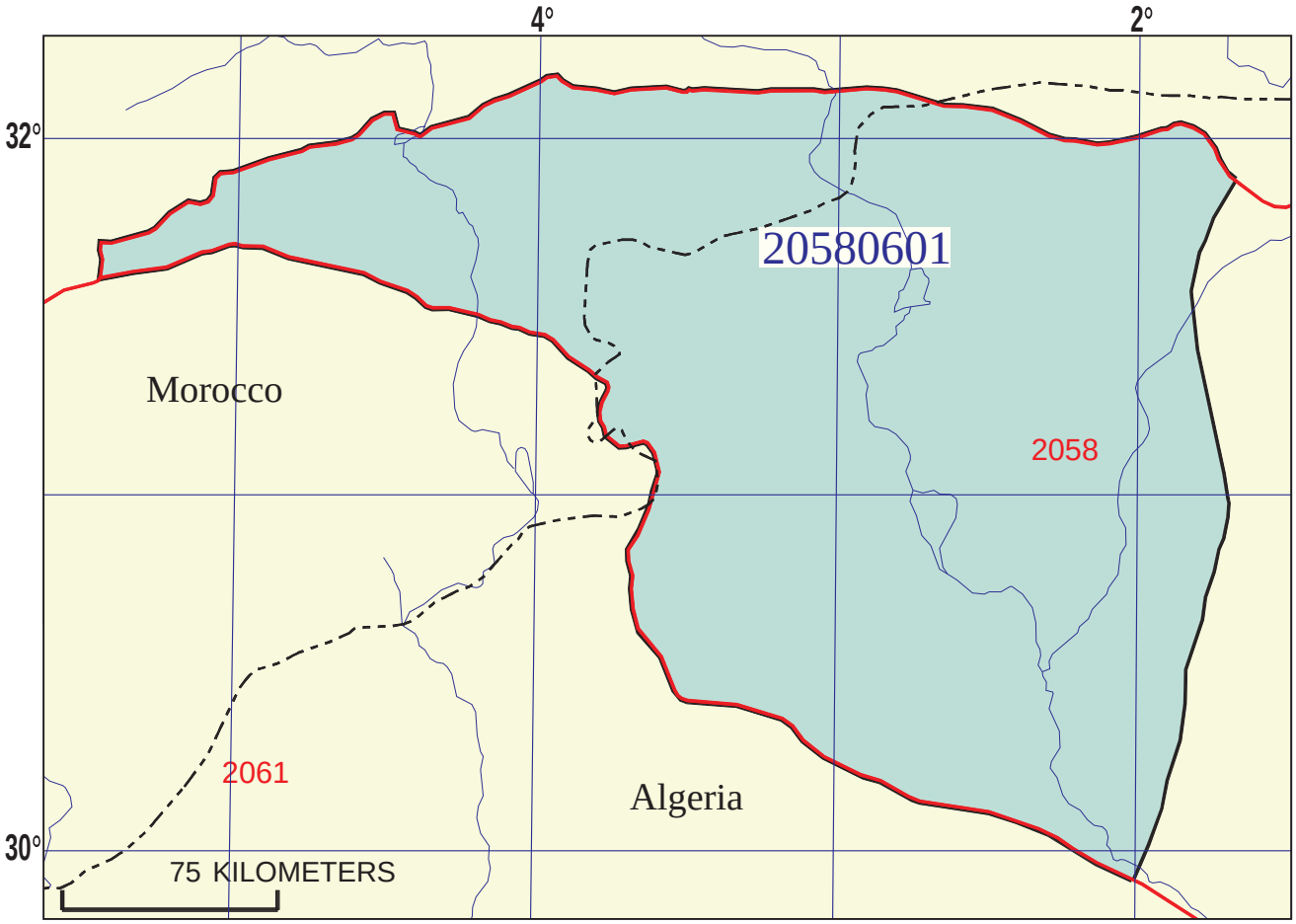
Bourque, P.-A., Madi, A., and Mamet, B.L., 1995, Waulsortian-type bioherm development and response to sea-level fluctuations: Upper Visean of Béchar Basin, western Algeria: Journal of Sedimentary Research, v. B65, n. 1, p. 80-95.

Conrad, J., and Lemosquet, Y., 1984, Du craton vers sa marge: évolution sédimentaire et structurale du bassin Ahnet-Timimoun-Béchar (Sahara algérien) au cours du Carbonifère; données paléoclimatiques: Bulletin de la Société Géologique de France, v. 7, n. 6, p. 987-994.



Tanezzuft-Bechar/Abadla Structural/Stratigraphic Assessment Unit - 20580601

EXPLANATION

- Hydrography
- Shoreline
- 2058 Geologic province code and boundary
- Country boundary
- Gas field centerpoint
- Oil field centerpoint
- 20580601 Assessment unit code and boundary

Projection: Robinson. Central meridian: 0

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

Date:……..	12/4/98		
Assessment Geologist:……..	T.R. Klett		
Region:……..	Middle East and North Africa	Number:	2
Province:……..	Grand Erg/Ahnet Basin	Number:	2058
Priority or Boutique:……	Priority		
Total Petroleum System:……	Tanezzuft-Bechar/Abadla	Number:	205806
Assessment Unit:……	Tanezzuft-Bechar/Abadla Structural/Stratigraphic	Number:	20580601
* Notes from Assessor	Rebels		

CHARACTERISTICS OF ASSESSMENT UNIT

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

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: 0 Gas: 0
Established (>13 fields) _____ Frontier (1-13 fields) _____ Hypothetical (no fields) X

Median size (grown) of discovered oil fields (mmboe):
1st 3rd _____ 2nd 3rd _____ 3rd 3rd _____
Median size (grown) of discovered gas fields (bcfg):
1st 3rd _____ 2nd 3rd _____ 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	0.4

Assessment-Unit GEOLOGIC Probability (Product of 1, 2, and 3):…….. 0.4

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)	1	median no.	5	max no.	10
Gas fields:……	min. no. (>0)	2	median no.	15	max no.	30

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	5	max. size	100
Gas in gas fields (bcfg):……	min. size	6	median size	30	max. size	1500

Assessment Unit (name, no.)
Tanezzuft-Bechar/Abadla Structural/Stratigraphic, 20580601

AVERAGE RATIOS FOR UNDISCOVERED FIELDS, TO ASSESS COPRODUCTS
(uncertainty of fixed but unknown values)

Oil Fields:	minimum	median	maximum
Gas/oil ratio (cfg/bo)……	1875	3750	5625
NGL/gas ratio (bngl/mmcfg)……	30	60	90

Gas fields:	minimum	median	maximum
Liquids/gas ratio (bngl/mmcfg)……	24	48	72
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)……			
Sulfur content of oil (%)……			
Drilling Depth (m) ……	2000	3500	5000
Depth (m) of water (if applicable)……			

Gas Fields:	minimum	median	maximum
Inert gas content (%)……			
CO_2 content (%)……			
Hydrogen-sulfide content (%)……			
Drilling Depth (m)……	2000	3500	5000
Depth (m) of water (if applicable)……			

Assessment Unit (name, no.)
Tanezzuft-Bechar/Abadla Structural/Stratigraphic, 20580601

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

1. Algeria represents 76 areal % of the total assessment unit

Oil in Oil Fields:	minimum	median	maximum
Richness factor (unitless multiplier):……			
Volume % in parcel (areal % x richness factor):…		76	
Portion of volume % that is offshore (0-100%)……		0	

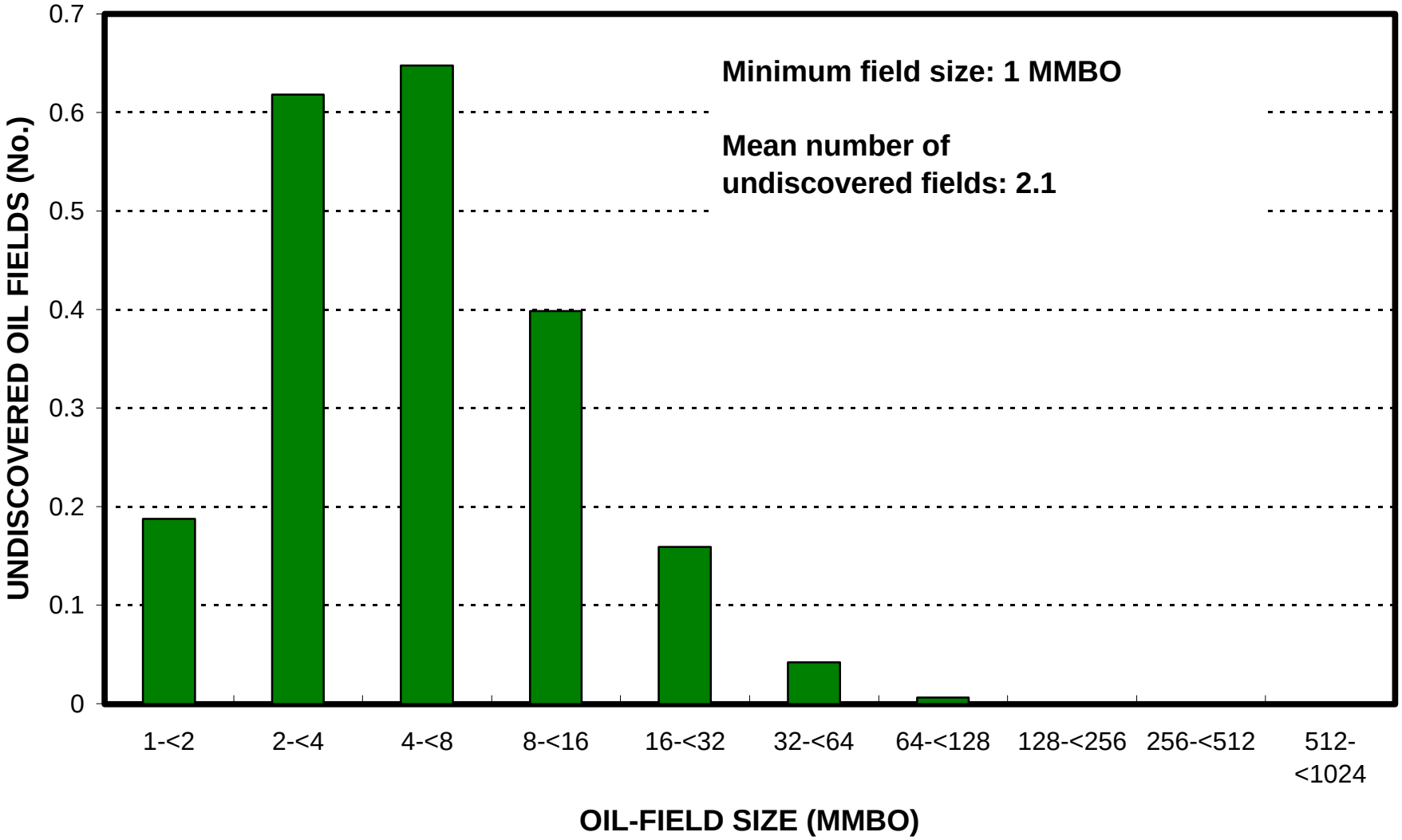
Gas in Gas Fields:	minimum	median	maximum
Richness factor (unitless multiplier):……			
Volume % in parcel (areal % x richness factor):…		76	
Portion of volume % that is offshore (0-100%)……		0	

2. Morocco represents 24 areal % of the total assessment unit

Oil in Oil Fields:	minimum	median	maximum
Richness factor (unitless multiplier):……			
Volume % in parcel (areal % x richness factor):…		24	
Portion of volume % that is offshore (0-100%)……		0	

Gas in Gas Fields:	minimum	median	maximum
Richness factor (unitless multiplier):……			
Volume % in parcel (areal % x richness factor):…		24	
Portion of volume % that is offshore (0-100%)……		0	

Tanezzuft-Bechar/Abadla Structural/Stratigraphic, AU 20580601
Undiscovered Field-Size Distribution



Tanezzuft-Bechar/Abadla Structural/Stratigraphic, AU 20580601
Undiscovered Field-Size Distribution