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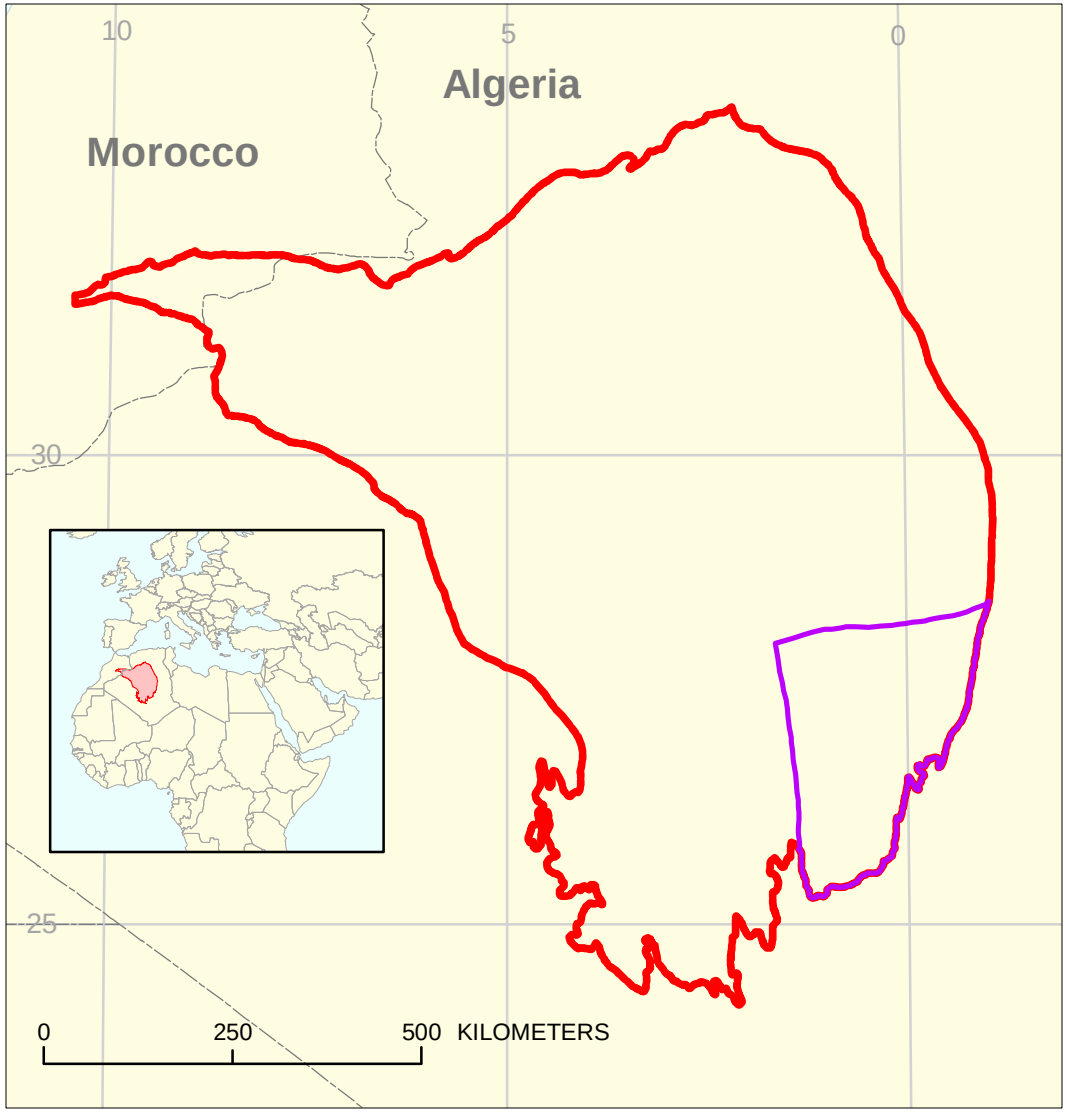
Tanezzuft-Mouydir Structural/Stratigraphic Assessment Unit 20580401



Tanezzuft-Mouydir Structural/Stratigraphic Assessment Unit 20580401

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-Mouydir (205804)

ASSESSMENT UNIT: Tanezzuft-Mouydir Structural/Stratigraphic (20580401)

DESCRIPTION: This total petroleum system and corresponding assessment unit coincide with the Mouydir Basin, bounded on the north by the Oued Mya Basin, on the east by the Amguid-Hassi Touareg structural axis, on the south by the Hoggar Massif, and on the west by the Idjerane-M'Zab structural axis.

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

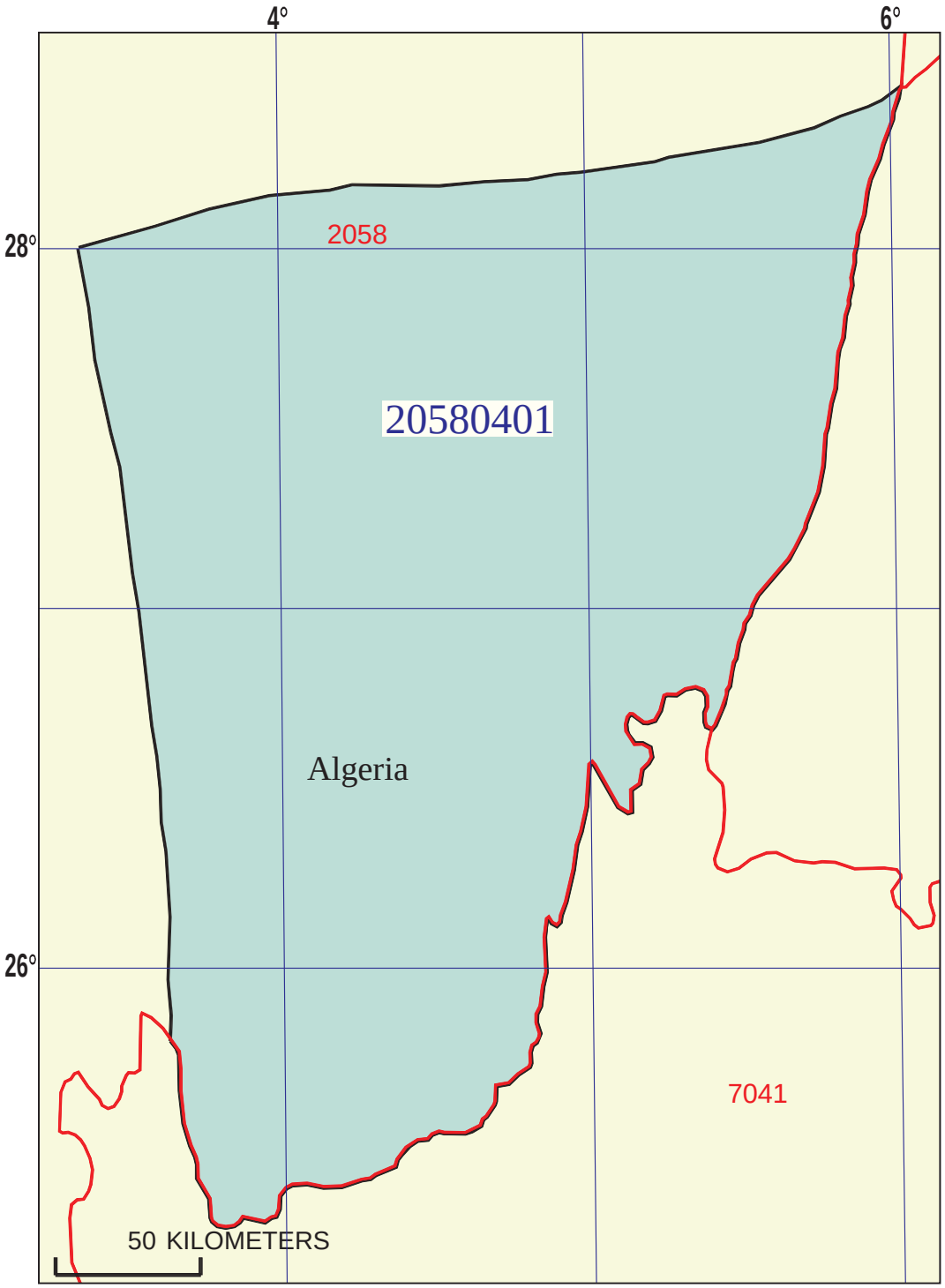
MATURATION AND MIGRATION: Oil generation probably started in the Carboniferous and was halted by uplift and erosion during the Hercynian deformational event. Potential source rocks were never again sufficiently buried to generate petroleum.

RESERVOIR ROCKS: Potential reservoir rocks are Cambrian-Ordovician fluvial to marine and glacial sandstone and Devonian paralic to marine sandstone.

TRAPS AND SEALS: Expected trap types are anticlines and faulted anticlines. Intraformational Paleozoic marine mudstone is the most likely primary seal.

REFERENCES:

Aliev, M., Aït Laoussine, N., Avrov, V., Aleksine, G., Barouline, G., Lakovlev, B., Korj, M., Kouvykine, J., Makarov, V., Mazanov, V., Medvedev, E., Mkrtchiane, O., Moustafinov, R., Oriev, L., Oroudjeva, D., Oulmi, M., and Saïd, A., 1971, Geological structures and estimation of oil and gas in the Sahara in Algeria: Spain, Altamira-Rotopress, S.A., 265 p.



Tanezzuft-Mouydir Structural/Stratigraphic Assessment Unit - 20580401

EXPLANATION

- Hydrography
- Shoreline
- 2058 — Geologic province code and boundary
- Country boundary
- Gas field centerpoint
- Oil field centerpoint
- 20580401 — 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-Mouydir	Number:	205804
Assessment Unit:……..	Tanezzuft-Mouydir Structural/Stratigraphic	Number:	20580401
* Notes from Assessor			

CHARACTERISTICS OF ASSESSMENT UNIT

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

What is the minimum field size?……. 5 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.	2	max no.	4
Gas fields:……	min. no. (>0)	1	median no.	6	max no.	15

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	5	median size	10	max. size	200
Gas in gas fields (bcfg):……	min. size	30	median size	60	max. size	1500

Assessment Unit (name, no.)
Tanezzuft-Mouydir Structural/Stratigraphic, 20580401

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	47	70
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) ……	1500	2250	3000
Depth (m) of water (if applicable)……			

Gas Fields:	minimum	median	maximum
Inert gas content (%)……			
CO_2 content (%)……			
Hydrogen-sulfide content (%)……			
Drilling Depth (m)……	1500	2250	3000
Depth (m) of water (if applicable)……			

Assessment Unit (name, no.)
Tanezzuft-Mouydir Structural/Stratigraphic, 20580401

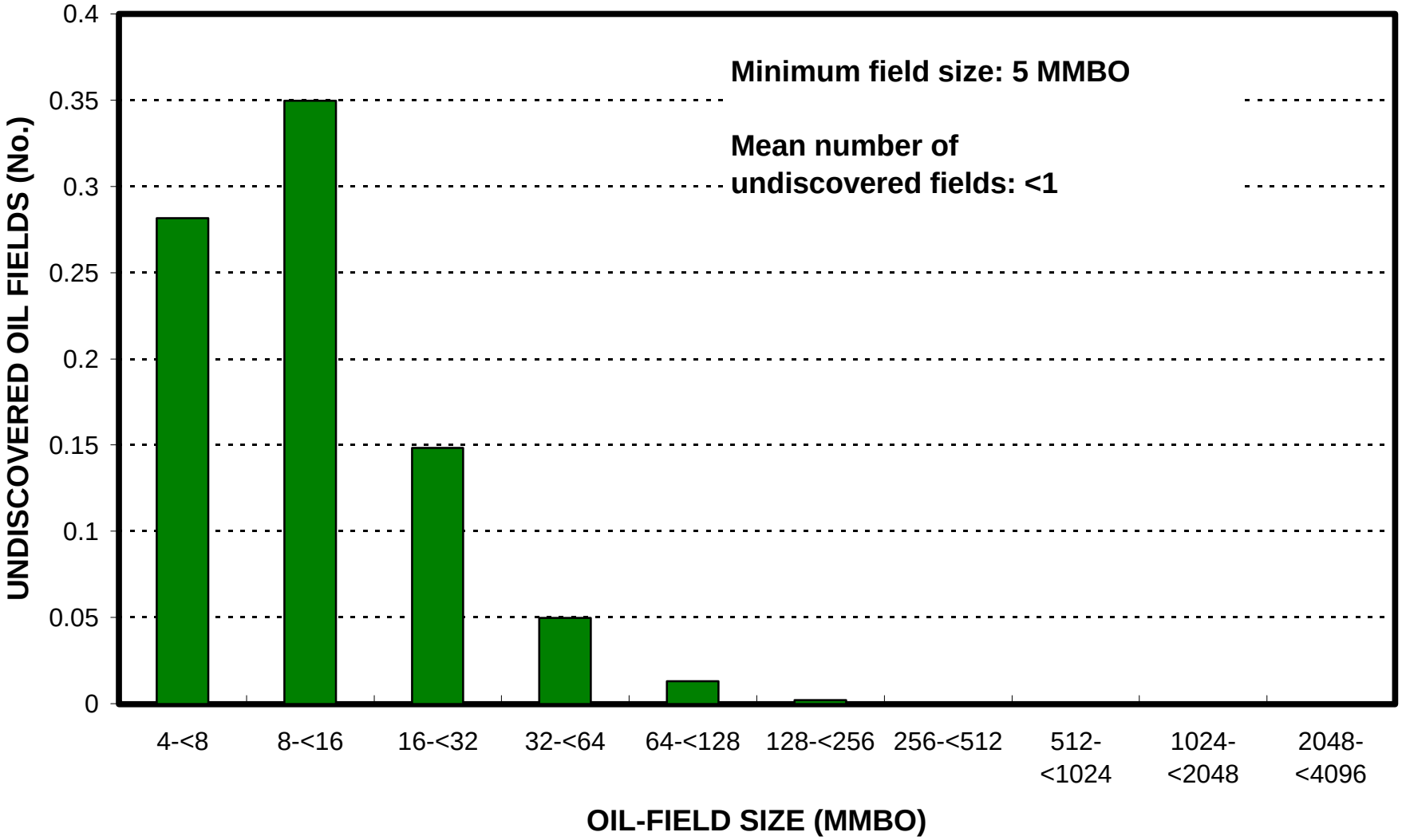
ALLOCATION OF UNDISCOVERED RESOURCES IN THE ASSESSMENT UNIT TO COUNTRIES OR OTHER LAND PARCELS (uncertainty of fixed but unknown values)

1. Algeria represents 100 areal % of the total assessment unit

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

Tanezzuft-Mouydir Structural/Stratigraphic, AU 20580401
Undiscovered Field-Size Distribution



Tanezzuft-Mouydir Structural/Stratigraphic, AU 20580401
Undiscovered Field-Size Distribution