

THE MAIN SYSTRUCTURAL TRAITS OF THE NEOGENE BASIN OF TANA FROM THE NORTHERN WEST OF ALGERIA

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I- Introduction

A- Geographical situation

Tafna basin is one of the Neogene basins that are stretching alongside the Algerian coast. They are considered as a tidy matter for many studies on many levels. It is bounded to the South by Mont of Tlemcen, Traras Monts are its limit to the East, where the Tessala Monts are found to in the opposite side, to the North is the Mediterranean sea (Fig.1: A, B)

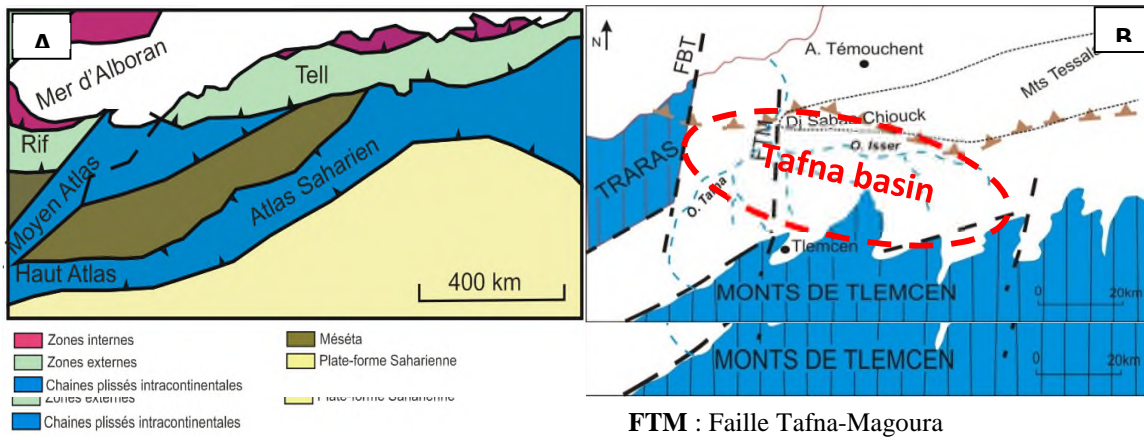


Fig.1: Geographical position of Tafna basin A - Tr Algeria B - Geographic situation of Tafna basin

B- Geological setting

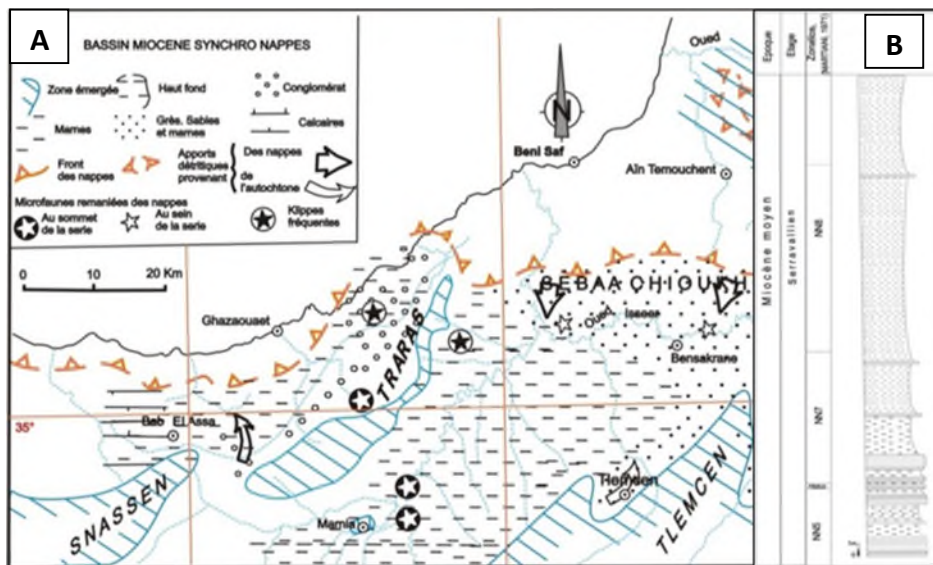


Fig. 2: Geological map of Tafna basin

A- The main Neogen formations (Guardia,1975)

B- Lithostratigraphic Log of Ghrou river formation (Mazouzi, 2004)

So far, only few studies dealt with the stratigraphy of Tafna basin, from which we found those of (Guardia, 1975) who attributed the Serravallian age to it . Nearly three decades later this attribution has been confirmed but this time with more accuracy according to Mazouzi, 2004 (Fig. 2: A, B).

II- Structural characters

In order to get an image more completed, a set of measurements have been carried out in six different places (sections) from the Basin (Hadjret El Ghat, Oued Sekak, Oued Bir Moka, El Ghetae, Djorf El Gherayef, Bled El Bakraout) Fig .3, 4



Fig .3: Rosetta of the main directions from the different sectors of Tafna Basin

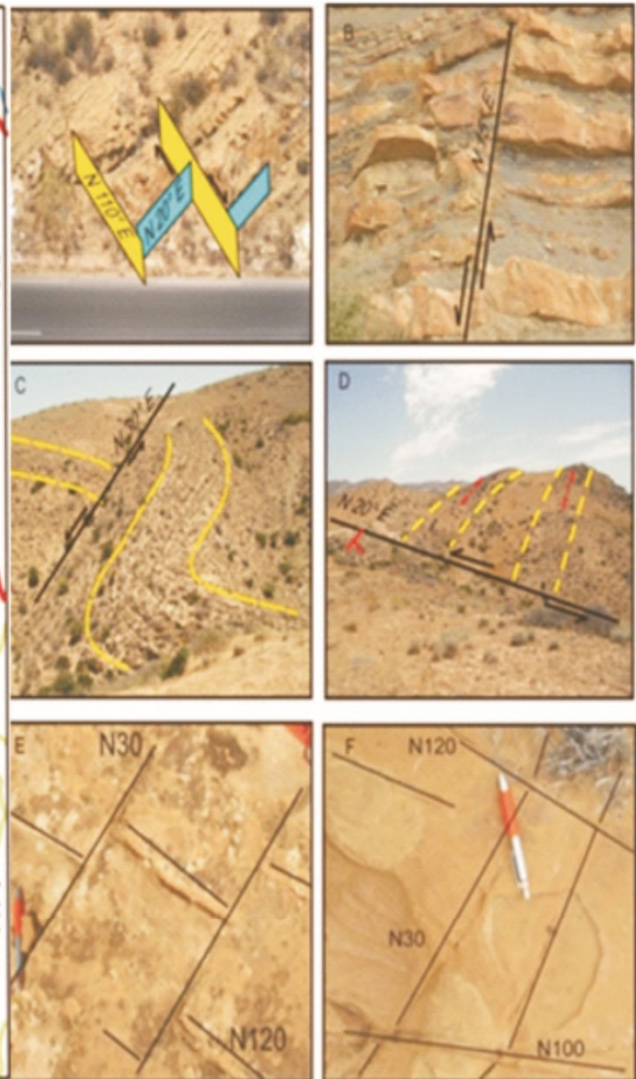
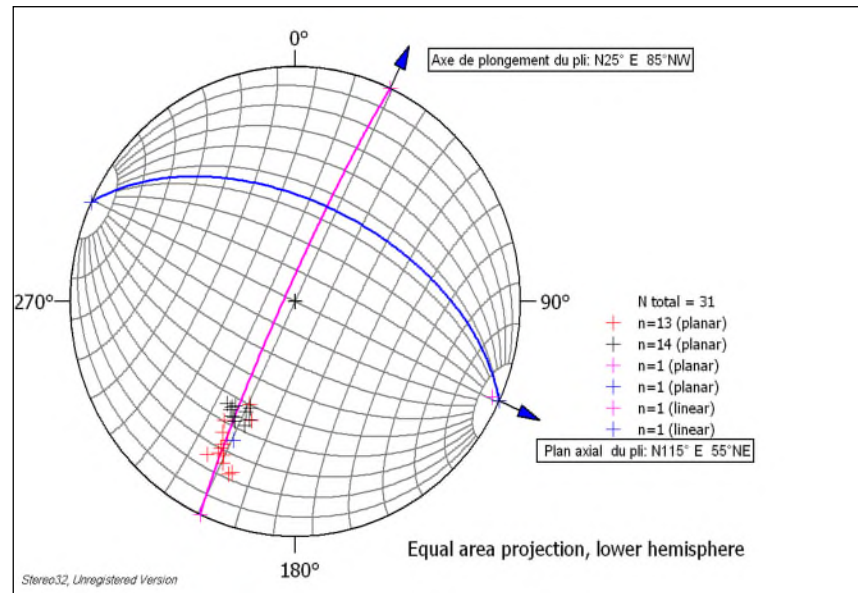


Fig. 4: Some geological structures
 A- Faults network (Hadjret El Get)
 B- Synsedimentary fault
 C- Fault fold
 D- Sinistral strike slip fault
 E- Faults network (sekak)
 F- Faults network (Djorf el gherayef)

Fig..5. Stereographic projection of the bisector plan (Schmidt Canneva, lower hemisphere)

From the field investigations, it has appeared that Hadjret El Gat is the most affected area in terms of deformed forms, that are characterized by its folded

shapes. For instance the measurement in Djebel Djedir shows According to FLEUTY (1964) diagram, that the fold is an asymmetrical anticlinal, its axial plan latitude is N115°E 55' NNE. That is tends toward N25 toward the 85° WNW.



III- Faults directions analysis

Directions	Significance
<u>NNE-SSW.</u>	It is well noticed in Hadjret El Gat area and being considered inherited from the Hercynian orogen that resumed in the Atlasic one. According to (GLANGEAUD, 1951; DUBOURDIEU, 1960 and 1962, ANDRIEUX and al., 1971 in THOMAS, 1985), it refers to large sinistral strike slip faults.
<u>NE-SW</u>	It is well represented in Hadjret El Gat, Sekak and Djorf Gherayef . THOMAS (1985) considered it as being extensional network
<u>ENE-WSW</u>	BENEST (1985), coined that the faults that are linked to this direction are so ancient known in the southern part of the basin.
<u>E-W</u>	The most faults are associated to the folded structure (THOMAS, 1985)
<u>NW-SE</u>	This direction in general has dextral fault strike slip as a normal faults (THOMAS, 1985). It is well represented in Hadjret El Gat, Sekak in particular and all over the rest of the basin in general.

IV. CONCLUSION

The structural analysis allowed us to know the main faults group that had a regional importance. Where these directions, all of them contributed separately and / or together in the structuration of the basin. Their chronology could be established as followed.

The most ancient ones are those of N 10 and N 50 of the pre-Atlasic orogen that manifested in distentional regime. Those who affected the basement are viewed on the surface. They are inherited from the Hercynian orogen and thereafter resumed during the Alpine phase. As far as, the direction N10 is also inherited from the t Hercynian orogen and resumed over the Atlasic one (Guardia,1975).

On the surface the direction (N-S) and N120 cross the aforementioned ones, so that the former ones are more recent, they have something to do with the Atlasic phase, within which the faults of N50, N20 manifested in subvertical fault and in folded-faults (Guardia,1975).

In general the folded chain takes a perpendicular direction with regard the rapprochement of African Eurasia continents.

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