Preliminary results from paleomagnetic study of the revisited Hassi Bachir formation, central Sahara (Algeria)

M.E.M. **Derder (1)**, B. Henry (2), B. Bayou (1), H. Djellit (1), M. Amenna (1), M.A. Guemmache (1) and A. Hemmi (1) :

(1) CRAAG BP 63 Bouzareah 16340 Alger Algeria

(2) IPGP, 4 Avenue de Neptune 94107 St Maur des Fosses cedex, France

A paleomagnetic study has been conducted on Carboniferous sedimentary rocks from Hassi Bachir formation from central Sahara (Algeria). The sampling concerned the upper part of this formation which is mainly constituted by red clay of Upper Namurian age, and the limestones of the lower part, attributed to the Lower Namurian. The aim of this study is to improve the African APWP for the Upper Paleozoic times by (i) confirming the results of Daly and Irving (1983) obtained from limited number of samples (31) from the red clay of Upper Namurian, and (ii) by determining new paleomagnetic pole from the limestones of Lower Namurian which has not been studied by Daly and Irving (1983).

The preliminary results of the paleomagnetic thermal demagnetization process from clay samples show mainly the superimposition of unblocking temperature spectra of at least two magnetic components. However, at higher temperatures, a stable component carried by hematite could be isolated by linear regression between 600 and 660 °C: D= 137° I= 23.6° k= 79 α_{95}= 2.3°. The corresponding paleomagnetic pole λ= 32.8°S ϕ= 54.4°E is close to that determined by Daly and Irving (1983).

The first results obtained from the limestones of the lower part of the geological formation of Hassi Bachir point out the existence of a magnetic component isolated between 300 and 570°C. The direction of this component: D= 135.5° I= 27.5° k= 57 α_{95} = 4.4° has a corresponding pole λ= 30.3°S , ϕ = 53.4°E. The location of these two preliminary poles is in the vicinity of the previous Middle to Upper Carboniferous poles for

stable Africa.