



Architecture of stromatolite buildups and interbedded facies in carbonate platform from Taoudenni basin (Neoproterozoic - Mauritanian - Adrar).

G. Merzeraud (1), M.C. Raddadi (2), P. Lapointe (3)

(1) Géosciences Montpellier CC. 60, place E. Bataillon, 34095 Montpellier cedex 5 France, (Gilles.Merzeraud@gm.univ-montp2.fr), (2) GETECH Group plc, University of Leeds, Leeds LS2 9JT United Kingdom (mcr@getech.com / +44 113 343 5866), (3) Dpt of Structural Geology, Sedimentology and Geology laboratory, Carbonate Sedimentology Group, TOTAL CSTJF - BA2081 - Av. Larribau - 64018 Pau Cedex - France (33 (0)5 59 83 65 14)

In the North of the basin of Taoudenni, the Neoproterozoic cover of the West African Craton, forms a succession of carbonate and terrigenous deposits who alternate vertically and sometimes laterally. In this basin, the Atar Group, localized in Mauritania, is about 800m thick and subdivided in 10 lithostratigraphic formations. The whole group is made of alternating marine siliciclastic and carbonate facies. The carbonates are mainly made up of stromatolitic biostroms and have already done the object by the past of diverse studies in stratigraphy (Trumpette, 1973) and in sedimentology. Essential objectives were being to characterize the facies succession of stromatolites along the time (Bertrand-Sarfati and Moussine-Pouchkine 1998) and to establish a stratigraphic framework for this portion of the basin. So, in the environs of Atar a new cross section very detailed has been realized for the Neoproterozoic. This section has permitted to specify the vertical facies succession and to propose diverse original models of depositings. Furthermore, direct observances of the three dimension organization on several structural plans broadly clear was possible, because of exceptional outcrops and particularly the lower angle of dip who is affected the whole of the series on the zone of study. This has permitted to analyse directly geometric relations existing between microbial buildups and intermediate deposits, like storm or tidal facies, and to precise their relationship.

Trompette, R., 1973 - Le Précambrien Supérieur et le Paléozoïque inférieur de l'Adrar de Mauritanie (bordure occidentale du Bassin de Taoudenni, Afrique de l'Ouest). Un exemple de sédimentation de craton. Etude stratigraphique et sédimentologique. Trav. Lab. Sc. de la Terre, St Jérôme, Marseille, (B) n°7, Marseille, 702 pp.

Bertrand Sarfati J. et Moussine-Pouchkine A.1998. Mauritanian microbial buildups : Meso-Neo-Proterozoïque stromatolites and their environment, Field Trip Guidebook, Publication ASF, no. 31, 107 p.