TIN BIDER: A COMPLEX IMPACT CRATER IN THE CENTRAL SAHARAN PLATFORM (ALGERIA)

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Introduction: In Algeria, four meteorites impact structures are recognized (Fig. 1). Two of them are considered as simple type "Amguid and Maadna (Talemzne)". While the Ouarkziz and Tin Bider craters are as a complex type (Belhaï and al.; 2006; Sahoui et al. 2009).Thus, the complex impact structure of Tin Bider is located at the plain of Tinrhert in the North-eastern part of Tidikelt and the reg Aguemmour 27°36 ' N 005°07'E E. The meteoritic origin was firstly named Tadmaït by Monod (1965).

Gelogical setting: From the Four impact structures located at the Saharan Platform, two present the target rocks a Cretaceous set "Maadna and Tin Bider". While the two others have for target rocks the Devonian formations.

The circular structure of Tin Bider is located in the Northeast of the Tadmaït plain and on the western side of the mole of Amguid-El Biod, in the area of Tilmas Lamra. considered as a part of the pre-Tassilian zones of the Saharan Platform. The affected formations are of Cretaceous.

Morphological description: The circular structure of Tin Bider about 6000 m in diameter,shows three main concentric rings and a central peak. This central peak is formed by the oldest rocks of lower Cretaceous, while three rings are formed by the formation of the upper and more average Cretaceous.

Litholostratigraphy: The impact stucture of Tin Bider is represented by target rocks which going from Albien sandstones of intercalary continental to upper Senonian (Lambert and al., 1981, Belhai et al. 2006).

Structural analysis: This crater is very eroded compared to other craters of Algeria. It has a round shape and dimensions which contrast with the surrounding plateau. This structure has strongly deformed sides which give it the name of a circular accident. We find a multitude of folds of all forms and classes as well as faults (normal, strike-slips and thrusts).

Discussion and conclusion: Allocation of the meteoritic origin: the circular shape, the faults and the folds as well as shocked quartz allowed to appoint Tin Bider structure for a meteoritic origin. Its age is more recent then upper Cretaceous formations.

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