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## GEOMETRIC ANALYSIS OF THE MINOR STRUCTURES IN THE IRAQI PART OF THE ZAGROS BELT, NE IRAQ

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### ABSTRACT

Geometric analysis was carried out on part of the Zagros Belt, along the border between Iraq and Iran, within rocks of Cretaceous age, which are composed of alternative sequences of competent and incompetent layers, and it contains a number of minor structures. The minor folds identified within the study area have different shapes, orientations and sizes, and exhibit high intensity folding. Their wave length and amplitude range from few centimeters up to tens of meters. They are ranged from gentle to tight according to the Fleuty, 1964 classification. Class 1B is dominated and followed by class 1C according to the Ramsay, 1967. The orientation of the minor folds, their relation with the major structures, variance in their shapes and sizes and difference interlimb angle, all indicate that they were developed progressively and in harmony with the major structure development. It can be concluded that the congruous and subcongruous minor folds were developed successively during a single phase of deformation with simulation of various compressive stress directions (generally, at NE-SW and E-W), and the reorientation of the stress field from one direction to another is attributed to the oblique collision between the Arabian and Eurasian plates and to the anticlockwise rotation of the Arabian plate relative to Eurasian plate.

**Keywords:** Geometrical Analysis, Minor Folds, Zagros Belt