STRATIGRAPHIC STUDY OF MS'AD FORMATION EAST OF RUTBAH – KILO 160 AREA, WESTERN DESERT, IRAQ

DISCUSSION

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Sir,

The author has many remarks on the work published by Amer, R.M. (2011) in Iraqi Bulletin of Geology and Mining Vol.7, No.3, p. 19 – 47, concerning the stratigraphy of the Ms'ad Formation in the Iraqi Western Desert, particularly on the recognized formations in the studied borehole A'awaj 1.

These are:

1. Figure 3, page 27. The upper 4 m. is included within the *Helvetoglobotruncana helvetica* zone although this interval contain no planktonic faunas, but its upper 1 m contain benthonic foraminifer of shallow water habitat.

2. Figure 4, page 28. Numbers of samples of the outcrop should be written as 1, 2, 3, and not 0.75, 0.35, and the upper 2 m is barren interval, included within the planktonic zone.

3. Figure 5, page 29. It is written that the whole outcrop section belong to the planktonic Zone of *Heletoglobotruncana helvetica* Zone, although it is not present within the fossil content, even the upper 4 m ferruginous sandstone (which contain no fossils) is included in the zone.

4. Figure 6, page 30. Only one sample contains the index species (sample no.5 and part of no.4), yet all the section was included within the zone of the sample.

5. Figure 7, page 31. The section is divided into two planktonic zones, *Rotalipora greenhornensis* and *Helvetoglobotruncana helvetica*, without their presence.

6. Figure 8, page 32. The outcrop section includes two samples (nos.1 and 2), no.2 is rich with planktonic fauna, whereas no.1 is barren, but they were included within the same planktonic zone.

7. Figure 9, page 33. The same as point no.3, the upper 60 m of the section is included within the planktonic zone of *Helvetoglobotruncana helvetica*, although no indication of the index is present.

Note: The aforementioned seven points need scientific explanations, using the planktonic rules of nomenclature, for zonation of planktonic foraminifera depending on their occurrences.

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8. Figure 1, page 36. The photograph of the fossil assigned to *Taberina cubana* KEIJGER, and given the age of Upper Cretaceous, in fact it is a type species found in the Paleocene of Cuba.

9. Figure 13, photograph 1, page 37. Has been included as The Rutba Quartzite, but no explanation is given in the paper for that.

10. One of the basic facts in writing a scientific paper is, the literature review, should include previous contributions; published and unpublished reports regarding the studied area. The new findings shouldmore abundant be discussed thoroughly; compared with the previous work; based on scientific evidences. Combining formations into one formation, should be explained, on lithologic bases, as we all know the formation is a set of rocks that share distinctive features large enough to be mapped.

11. *Orbitolina concava*, *Orbitolina discoidea* in borehole A'awaj 1, and east of Rutba is a very important marker for the presence of Mauddud Formation, the formation is known as "the Albian – Cenomanian, Orbitolina-bearing limestone and dolomite, that cover most of the Arabian basin including the extreme extensions of the Arabian Platform"(Al-Sadooni and Sharhan, 2003).