CAPABILITY OF ERTS 1 IMAGERY TO INVESTIGATE GEOLOGICAL AND STRUCTURAL FEATURES IN A SEDIMENTARY BASIN (BASSIN PARISIEN - FRANCE)

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The authors has identified the following significant results in lithological and structural surveys.

A - Lithological

The region covered by the M.S.S. images has the benefit of complete geological mapping at the scale of 1/80 000, 1/320 000 and 1/1 000 000. The comparison of the images and the existing geological map, particularly the one at the scale of a millionth produces important information of two winds.

First, a good correspondance is seen between the large units distinguished at first sight ont the images and the concentric strata of the Jurassic Cretaceous and Paleogene ont the map.

Secondly, some differences are linked to the very conception of the geological map considered which introduces exclusively stratigraphic distinctions ignores the representation of covering deposits and does not express lithological variations. Then the comparison of M.S.S. images with the hydrogeological map of the Parisian basin at 1/500 000, which shows the great lithological formations removes all ambiguity.

B - Structures

Amongst the many faults revealed by the study of the M.S.S. images the author considers only three, successively those of Metz Juranze and the double fault of the Marne.

The Metz fault is known on the eastern margin of the M.S.S. image and from this point the author have noticed a conspicious alignement unknown

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until now and ending near Montereau against the group of North-South faults (between Montargis and Bourbon l'Archambault) possibly extending those of Limagne and the "sillon houiller". This alignement is interpreted as a lineament and complementary informations from numerous methods of geological investigations corroborate this interpretation.

The Juranze fault is known in the field. On the M.S.S. images the author observes that this fault divides beyard Brienne into two branches of equal importance. The northern one represents the known Juranze fault, the southern one was not known until now, but the convergence of these two faults constitute a tectonic trap suspected during research for petroleum.

The double fault of the Marne is known on a total length of 50 kilometers. The M.S.S. images suggest a prolongation toward the South-East which would bring its length to 110 kilometers ?