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**A new methodology for microfossiliferous recovery:  
use of the equipment SELFRAG**



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The quality of the recovery of mineralized microfossils is based on the state of the preservation of the specimen and the laboratorial method used on the sample of rock that contains the fossil register. A new methodology using the equipment called SELFRAG (Selective Fragmentation) aims to improve the recovery of the main groups of mineralized microfossils, the ostracoda and the foraminifera. The SELFRAG equipment is well known for its effectiveness in disaggregate minerals from hard rock, generally igneous and metamorphic rocks, usually used on methodologies of absolute datation. However, the technique proved efficient in breaking rocks with breakdown and preservation, often superior to conventional methods applied on mineralized microfossils. Through electrical high voltage discharges, converted into sonic waves in the natural discontinuities of rock, the breakdown occurs detaching the fossil from the matrix of the rock. Naturally, the microfossils are physical discontinuities, there are so efficient release of fossil content in the studied samples.

The methodology used is based on the analysis of different rock lithologies, such as chert, siltstone and limestone, belonging to different chronostratigraphic units: Cryogenian, Ediacaran, Permian and Cretaceous. The samples were prepared using the same methodology, regardless of age or lithotype. The same samples processed on the equipment SELFRAG had previously been prepared by conventional methods used on mineralized microfossils and therefore, this analysis as basis of a comparison with the results obtained before. These results could be compared statistically through charts. In addition to the improvement in microfossils recovery, using the equipment SELFRAG optimizes the time spent on sample preparation, because it is almost instantaneous. Besides, it is not necessary the expense of reagents for the rock breakdown. If further notes the extraction almost complete of the microfossils from the its rocky matrix.

