ROCHECHOUART IMPACTOCLASTITES. P. Lambert[1] and W.U. Reimold[2]. [1]Sciences & Applications, F-33700 Bordeaux Merignac, France. Email : lambertbdx@numericable.fr. [2]Museum für Naturkunde, Leibniz-Institute at Humboldt University Berlin, 10115 Berlin, Germany.

The ash-like deposit of fine-grained lithic debris derived from basement rocks, which occurs at the top of the Rochechouart impactite deposit [1], complies with the definition of impactoclastic deposit recently introduced in the impactite nomenclature [2]. The grain size of the clastic material is an order of magnitude finer than that of the underlying suevite. Shocked mineral clasts leave no doubt about the relationship with impact [1], but this material is free of melt, unlike the fine-grained deposit at the top of the impactite sequence at Bosumtwi [3].

Material with similar grain size and composition is observed in centimeter to meter thick multi-layered intercalations (dykes) cutting through the suevite. The trends and dip of these bodies are highly variable. These dykes have a massive appearance due to their reduced grain site. The main macroscopically observed layering as well as the microscopic layering of the debris in the matrix extend parallel to the dyke walls. The main layering is related to the occurrence of melt (glass), in that glass-free layers alternate with layers carrying mm or finer sized melt particles. The alternating layers have the same matrix and grade into each other within millimeter wide transition zones. The glass-free material is identical to the fine lithic and comminuted debris in the horizontal deposit except for the microscopic layering, which may be undulous and then indicating flow.

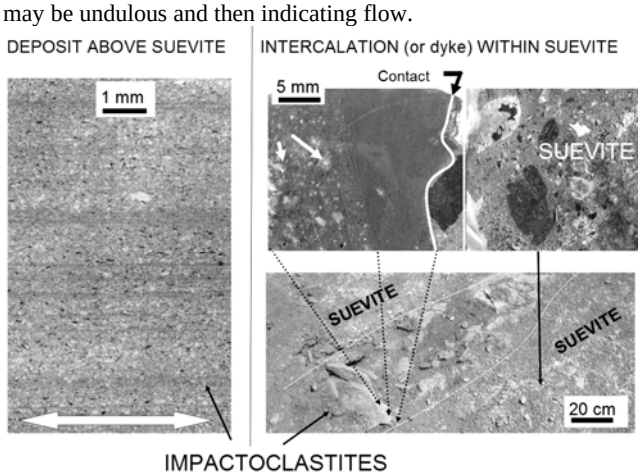

Figure 1: Left: Fine-grained horizontal deposit above the suevite. Right: Multi-layered fine-grained intercalation within the suevite (white arrows: glass clast).

The fine-grained horizontal deposit and the multilayered fine grained intercalations thus appear related. They are proposed as members of an impactoclastite family where the dominant characteristic is the prominence of comminuted target debris. The glass-bearing member is texturally intermediate to suevite (and more generally impact breccias) and the sediment-like impactoclastite deposit. Further description and tentative interpretation of the genetic mechanism and the role of water and volatiles in the emplacement of these impactoclastites will be presented at the conference.

References: [1] Lambert P. 1977. *Earth & Planetary Science Letter* 35: 258-268. [2] Stöffler, D. & Grieve, R.A.F., 2007. http://www.bgs.ac.uk/SCMR/docs/papers/paper_11.pdf. [3] Koeberl, C. et al., *MAPS* 42, 709-729.