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2010-04-26T13:19:21Z
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Early Acheulean in the Vaal River basin, Rietputs Formation, Northern Cape Province, South Africa

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A dissertation submitted to the Faculty of Science, University of the Witwatersrand, Johannesburg, in fulfillment of the requirements for the degree of Master of Science.

Johannesburg, 2009

DECLARATION

I declare that this dissertation is my own, unaided work, except where otherwise acknowledged. It is being submitted for the degree of Master of Science in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other university.

Signed this _____ day of _____ 2009

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George Michael Leader IV

ABSTRACT

The site of Rietputs 15 which is part of the Rietputs Formation, Windsorton, South Africa has yielded the first early Acheulean collection in southern Africa to have an absolute date. Cosmogenic burial dating has provided the site with an age of *ca* 1.60 ± 0.36 Ma, with the collection's individual age of 1.43 ± 0.23 Ma (Gibbon *et al.* 2008). These dates indicate that Rietputs 15 artefacts are some of the oldest Acheulean artefacts in South Africa and places it firmly in the early Acheulean. In addition to the diagnostic bifaces such as handaxes and cleavers, the collection contains a number of highly "organised" cores. Out of all the cores in the collection approximately 5% display a number of features which demonstrate hominids were controlling the working of the core in order to exploit the largest surface, often for a preferential removal. The most common form of organisation is asymmetrical control in which the underside is worked pyramidally so that the larger top surface may be exploited. However, should the largest face be a side of the core accessible with minimal effort, the hominids focused flaking there, producing a single platform core with elongated removals somewhat similar to a blade core. These cores tend to be worked much less on the platform and other sides, suggesting that the blank was carefully selected for its shape. Such early forms of organisation may stem from two factors. First, the hornfels that is most often used is a fine-grained and uniform material which makes for high quality knapping results. Secondly, the hornfels is typically found in "blocky" forms. Such blanks have a number of faces and angles which may assist and even influence the core organisation. Such evidence supports the claim that organized flaking strategies of cores in the early Acheulean needs to be re-evaluated. The reason that these patterns have been recognized in the South African early Acheulean is because of the large sample of provenience-controlled and dated artefacts provided by the Rietputs 15 site. The collection also contains a large number of bifaces that now provide a substantial sample of these diagnostic tool types for a more detailed understanding of the early Acheulean in South Africa.