



Initial results of ^{234}U - ^{230}Th dating of tufa within Wadi Dabsa to reconstruct palaeoenvironments and interpret the Palaeolithic Landscape in southwest Saudi Arabia.

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The Red Sea coast of region of southwest Saudi Arabia has a rich record of Early and Middle Stone Age archaeology (e.g. Bailey et al., 2015). The Wadi Dabsa basin, within the volcanic landscapes of the Harrat al Birk, contains a major concentration of artefacts (> 3000) making it one of the richest Palaeolithic assemblages so far recorded in southwest Saudi Arabia (Foulds et al., 2015; Inglis et al., 2017). In order to fully understand the artefacts and their implications for hominin activity their palaeoenvironmental and chronological context needs to be constrained. The widespread tufa carbonate deposits in this basin, associated with the archaeology, indicate that this basin has been perennially wet at certain periods of time. The tufa deposits represent an underexploited palaeoenvironmental record that will improve our understanding of the environments and landscapes occupied by Palaeolithic populations in the Saharo-Arabian belt.

This poster presents the initial findings from the analysis of 13 tufa samples using ^{234}U - ^{230}Th dating, to date the timing of wetter conditions in this basin. Samples have also been taken for stable isotope analysis to provide an insight into source water composition and palaeotemperature. This is part of a wider multi-method approach to reconstruct landscape development at this site, which also involves geomorphological mapping and $^{40}\text{Ar}/^{39}\text{Ar}$ dating of the basalt flows in this landscape that have influenced the hydrogeology and surface hydrology of the basin. Thin sections of each tufa sample have been used to guide sampling locations for ^{234}U - ^{230}Th dating and isotopic analysis.

References

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