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A palaeoenvironmental reconstruction of c. 2 million year old Oldowan archaeological occurrences on the Homa Peninsula, southwestern Kenya: a multiproxy approach

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The Homa Peninsula, situated on the Winam Gulf of Lake Victoria, has yielded traces of hominin activity going back to at least ∼2ma BP. The best known site on the peninsula, Kanjera South, boasts large stone artefact and zooarchaeological assemblages preserved in three beds (from oldest to youngest: KS-1 to KS-3). Previous studies have used field sedimentological analyses, as well as stable isotope analysis of pedogenic carbonates to better understand the depositional and environmental contexts of hominin activities. These suggest that sediments were deposited in alluvial and lake marginal environments on a grassy plain, between wooded slopes and a permanent water body. The aim of this study is to refine previous palaeoenvironmental reconstructions of Kanjera South with the aid of particle size analysis, whilst also offering insights into the palaeoenvironment of other archaeological sites on the Homa Peninsula through a multiproxy approach. The project aims to include analyses of particle size, stable-isotopes, pollen and siliceous microfossils (phytoliths, diatoms and sponge spicules).

Preliminary results of particle size and phytolith analyses have refined interpretations of the depositional environment at Kanjera South for beds KS1-3. Poor sorting, a bimodal distribution and sand/silty-sand grade material characterise the sediments. The characteristics suggest rapid deposition and/or a variable energy regime. A varying flow regime in relatively unconfined ephemeral channels might explain the transportation and deposition of sediments. Fluvial reworking of aeolian sediments, most likely during unconfined flood events may also have occurred. Phytoliths from the same beds showed grassland indicating *Pooideae*, as well as some *Bambusoideae* and woodland indicating phytoliths; this supports previous work.