2015 GSA Annual Meeting in Baltimore, Maryland, USA (1-4 November 2015)

Paper No. 136-9
Presentation Time: 9:00 AM-6:30 PM

MICROFACIES ANALYSIS AND HIGH-RESOLUTION XRF SCANNING OF A LAMINATED PLEISTOCENE LACUSTRINE SEQUENCE FROM EAST AFRICA

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The Hominin Sites and Paleolakes Drilling Project (HSPDP) along with the Smithsonian's Human Origins Program team recovered drill core from six paleolake sites in the East African Rift (including the Olorgesailie-Koora region) that are likely to contain records of environmental change relevant to hominin evolution. Archeological sites in the Olorgesailie basin show significant innovations in tool use technologies. Core from Olorgesailie/Koora region has been subject to initial analyses, including X-Ray Fluorescence (XRF) core scanning. In this study we focus on a laminated section of core between 117 and 120 meters below surface that appears to be deposited in a fresh deep-water lake. Characterization of the ~1mm laminations in this 3-meter section, and understanding their link to the regional environment, will aid in unraveling the story of sediment deposition at this location and sub-millennial climate reconstruction. XRF profiles of elemental concentrations across the laminated section of the core reveal cyclic environmental variability at several scales. For example, high Si:K and Ca contents may be interpreted as indicators of diatom productivity and

autochthonous carbonate precipitation in the lake, respectively. Microfacies analyses of thin sections characterize compositions of dark and light laminae and aid in assessing the relationship between elemental content, minerals, and lacustrine processes.

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Session No. 136--Booth# 417

T195. Paleoenvironmental Reconstruction of Hominin Sites: New Methods, New Data, and New Insights (Posters)
Monday, 2 November 2015: 9:00 AM-6:30 PM