

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

Paper No. 136-5

Presentation Time: 9:00 AM-6:30 PM

LATE PLIOCENE AND EARLY PLEISTOCENE TEMPERATURE RECONSTRUCTIONS FROM PALEOLAKES OF THE WEST TURKANA AND NORTH AWASH BASINS, EAST AFRICA

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The overall goal of the Hominin Sites and Paleolakes Drilling Project (HSPDP) is to reconstruct past environments of the East African Rift Valley from locations in close proximity to some of the world's most important fossil hominin and artifact sites. In this study, we investigate sediments from two of the HSPDP sites: the West Turkana and North Awash Basins. The North Awash Basin contains abundant early hominin fossils and the lakebeds of the Hadar Formation (~3.6 to ~2.9 Ma) will provide a record of climate variability during the Pliocene, prior to the intensification of Northern Hemisphere glaciation at ~2.7 Ma. The lakebeds of the Turkana Basin are Early Pleistocene in age (~1.9 to ~1.45 Ma) and span the interval that includes some the earliest fossils of *Homo rudolfensis* and *H. ergaster/erectus*. Here we examine the organic geochemistry of West Turkana and North Awash Basin sediments and present preliminary temperature reconstructions from these sites using the methylation and cyclization (MBT and CBT) ratios and relative abundances of branched glycerol dialkyl glycerol tetraethers (brGDGTs). Additionally we examine variability in the abundances and

ratios of plant leaf waxes (*n*-alkanes) to provide insight into past vegetation changes on the East African landscape.

Session No. 136--Booth# 413

T195. Paleoenvironmental Reconstruction of Hominin Sites: New Methods, New Data, and New Insights (Posters)

Monday, 2 November 2015: 9:00 AM-6:30 PM