The Hominin Sites and Paleolakes Drilling Project is an international research project, led by the University of Arizona, whose goal is to document paleoenvironmental and paleo-climatic history from lakebeds located close to and coeval with important fossil hominin (early human ancestors and relatives) and archaeological sites from the Plio-Pleistocene of eastern Africa. Lake sediment from drill cores collected at the West Turkana region of Kenya have been analyzed for total organic (TOC) and total inorganic carbon (TIC) using Loss on Ignition methods.

Drill cores were sampled and analyzed for TOC TIC every 64cm throughout the 215m West Turkana core record, which cover time intervals of ~ 1.4-1.9Ma respectively. Also considered for this project are Magnetic Susceptibility (MSCL) and Gamma Density logs, which measures sediment density and the amount of Fe rich material. Looking at the data that we have analyzed to date, a few trends are revealed. There is an overall trend of decreasing organic carbon levels through time. There are also spikes in carbonates, MSCL, and Gamma Density which increase in the upper portion of the core. The directional changes in the LOI and log data indicate a decrease in paleolake depth up-section, driven by either a decrease in precipitation or delta progradation.