

POSTER PRESENTATION

THE DIATOM RECORD OF ENVIRONMENTAL CHANGE ACROSS THE PLIOCENE- PLEISTOCENE TRANSITION AT LAKE EL'GYGYTGYN, NORTHEAST RUSSIA

Amy E. Wakefield and Jeffrey A. Snyder

Department of Geology, Bowling Green State University, Bowling Green, Ohio 43403 USA

The unique ~3.6 My sedimentary record from Lake El'gygytgyn, northeast Russia provides an opportunity to explore environmental conditions in the Arctic during the high-CO₂ Pliocene and the transition into the Pleistocene. Diatoms are found throughout the length of the Lake El'gygytgyn core record, and diatom and biogenic silica concentrations vary widely. From 2.613-2.575 Ma, high-resolution analysis of diatom concentration in sediment and images obtained by scanning electron microscopy were used to determine the nature of the fluctuations in the diatom population during the Pliocene-Pleistocene climate transition. A low concentration of both planktonic and benthic diatoms occurs during the inferred cold event at 2.6 Ma. Distinct morphology and ultrastructure characteristics in the dominant planktonic *Pliocaenicus* (*Lindavia*) spp. before and after this event provide further support for a threshold in ice conditions severely impacting diatom production in the lake.