79. Mohan, J., Stone, J.R., and Campisano, C.J., 2016, Diatoms from the Pliocene Hadar Formation, Afar Depression, Ethiopia. Geo. Soc. Amer. Ann. Mtg., Denver, CO 26-29 Sept., 2016.

A diatom assemblage is described from two boreholes that include sediment from the Pliocene Hadar Formation, Afar Depression, Ethiopia. The Osi-Isi (NAO, 11.31518°N, 40.73689°E) and Woranso (NAW, 11.32535°N, 40.76491°E) sediment cores were extracted as part of the Hominin Sites and Paleolake Drilling Project (HSPDP), the goal of which is to explore the paleoenvironment that occurred with hominin evolution in East Africa. The diatom assemblage comprises three genera and several species. We describe two species of *Aulacoseira*Thwaites 1848 and one of *Pliocaenicus*Round and Håkansson 1992. 40Ar/39Ar dating and tephrastratigraphy indicate sediment ages ranging from approximately 3.22 to 2.93 Ma. Assorted diatom assemblages are distributed intermittently throughout both cores. We focus on the well preserved diatomite sections. The assemblages of which likely indicate varying pH, stratification, trophic state, silica, and phosphorous levels. Diatomite sections indicate the presence of a deep, well-mixed lake that underwent several periods dominated by stratification. The lake conditions were highly variable throughout the 300,000-year span preserved in the core. *Pliocaenicus*is constrained to a very short interval in the cores and will likely prove to be a valuable biosratigraphic marker in the Pliocene Hadar Formation.