Varnished rocks are produced during periods of arid hot or cold conditions, when metal oxides are deposited. Over long periods of time, the layers deposited can yield information regarding climate changes during the era. Microlaminations in these rocks have yielded new information about climate changes and activities during the Paleoindian Period at the close of the last Ice Age in the field of geoarchaeology. Preliminary data from the XFM, SRX, and XPD beamlines indicates the presence of varnished rocks formed on Eastern Long Island. These rocks were possibly formed during the cold, arid interglacial period. We next plan to investigate possible microlaminations in the varnish layers using high resolution spectroscopy at the CFN facility.