ABSTRACT

Ground penetrating radar (GPR) and the single-aliquot regenerative-dose (SAR) was used to determine the depositional environments and age of the Merritt Island sand ridge sequence. Five direct-push cores and ten OSL ages were collected. A new model of cosmic dose rate calculation, which removes the much younger aeolian cap, was utilized for the first time and helped produce more consistent OSL ages. Based on our data and samples, the Merritt Island sand ridges are a classic beach ridge set that was deposited during the MIS-5c sea-level highstand. This is supported by the results of Osmond (1970) based on U/Th ages and Burdette et al. (2009) based on OSL ages of a coquinoid limestone west of the beach ridge sequence.