

## **ABSTRACT**

Grains (0.15-1.0 mm) composed mostly of well-evolved glauconite, based on X-ray diffraction, visual data, and potassium measurement, are found dispersed within the Ocmulgee Limestone (latest Eocene) 20-22 feet above the basal contact at Taylor's Bluff, its type locality, on the Georgia Coastal Plain. These grains are botryoidal and dark grey-green to green-black in color. Some were separated from the limestone for K-Ar age study and yielded an age of  $33.7 \pm 1.0$  Ma from a small sample, 18 mg, used for both potassium and argon-isotope measurements. This K-Ar age for the glauconite places the deposition of this interval of the Ocmulgee Limestone and its characteristic Eocene fossil assemblage close to the time of the Eocene-Oligocene transition ( $33.9 \pm 0.1$  Ma). The techniques described herein make it possible to measure the K-Ar age of glauconite present in small amounts using one weigh-out and thus decreasing analytical error. This technique makes it possible to determine numerical age values for limestone containing only small amounts of dispersed but well-evolved glaucony grains.