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PROVENANCE ANALYSIS ON DETRITAL ZIRCONS FROM THE BACK-ARC ARIVECHI BASIN: IMPLICATIONS FOR THE UPPER CRETACEOUS TECTONIC EVOLUTION OF NORTHERN SONORA AND SOUTHERN ARIZONA.

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ABSTRACT

In the Arivechi region of eastern Sonora, northwestern Mexico, mountainous exposures of Upper Cretaceous rocks that contain monoliths within coarse sedimentary debris are enigmatic, in a province of largely Late Cretaceous continental-margin arc rocks. The rocks sequence in the study area are grouped in two Upper Cretaceous units: the lower Cañada de Tarachi and the younger El Potrero Grande.

Detrital zircons collected from three samples of the Cañada de Tarachi and El Potrero Grande units have been analyzed for U–Pb ages to constrain their provenance. These ages constrain the age of the exposed rocks and provide new insights into the geological evolution of eastern Sonora Cretaceous rocks. The detrital zircon age populations determined for the Cañada de Tarachi and El Potrero Grande units contain distinctive

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