To What Extent Do Early Paleogene Sandstones in Big Bend National Park Document a Change in Volcanic Provenance?

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Clasts within Paleocene and Eocene sandstones in Big Bend National Park were analyzed petrographically and counted to track change through the Paleogene of the presence and relative importance to provenance of a variety of volcanic sources. The Paleocene Black Peaks, early Eocene Hannold Hill, and middle Eocene Canoe Formations dominantly record the erosion of deformed Cretaceous limestones while the upper part of the Canoe Formation contains the first locally derived volcanic clasts. In this undergraduate research project, variation in size, composition and relative abundance of volcanic lithic fragments throughout this sequence are documented and compared to known eruptive centers in the Trans-Pecos Volcanic Field and western Mexico. These observed changes correlate to paleocurrent data and depositional style.