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Quaternary Fault and Fold Database of the United States

As of January 12, 2017, the USGS maintains a limited number of metadata fields that characterize the Quaternary faults and folds of the United States. For the most up-to-date information, please refer to the interactive fault map.

Yampai graben (Class A) No. 996

Last Review Date: 1997-04-15

Compiled in cooperation with the Arizona Geological Survey

citation for this record: **Pearthree, P.A., compiler, 1997, Fault number 996, Yampai graben, in Quaternary fault and fold database of the United States: U.S. Geological Survey website, https://earthquakes.usgs.gov/hazards/qfaults, accessed 12/14/2020 03:11 PM.**

Synopsis	The Yampai graben is a narrow, shallow, symmetric graben located on the west side of the Aubrey Valley near the southwestern margin of the Colorado Plateau. Paleozoic rocks are displaced at least 30 m from the graben shoulders to the valley bottom. The escarpments are fairly steep and quite linear which suggests Quaternary fault activity, but there is no documented displacement of the scarce Quaternary deposits along the fault.
Name comments	Mapped and named by Menges and Pearthree (1983 #2073).
County(s) and State(s)	COCONINO COUNTY, ARIZONA YAVAPAI COUNTY, ARIZONA

Physiographic province(s)	COLORADO PLATEAUS
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Trace based on aerial photo interpretation at 1:130,000 scale; trace transferred to 1:250,000-scale topographic base map.
Geologic setting	The Yampai graben is a narrow, shallow, symmetric graben located near the southwestern margin of the Colorado Plateaus province. It is on the west side of the Aubrey Valley, which is a relatively shallow, asymmetric Cenozoic basin bounded on its east side by the much larger Aubrey fault [995]. Paleozoic rocks are displaced at least 30 m from the graben shoulders to the valley bottom.
Length (km)	7 km.
Average strike	N23°W
Sense of movement	Normal *Comments:* Inferred from topography and regional relations.
Dip Direction	NE; SW
Paleoseismology studies	
Geomorphic expression	Faulting has generated two steep, linear escarpments on Paleozoic bedrock; these escarpments form the sides of a narrow trough that is filled with young fan deposits that are not faulted.
Age of faulted surficial deposits	Paleozoic. Surficial Quaternary deposits are scarce and there is no evidence that they are faulted.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* No Quaternary faulting has been documented, but Quaternary deposits are scarce along the fault and thus definitive evidence may not be present. The steepness and linearity of the

	graben escarpments suggest Quaternary activity, and late Quaternary movement is possible.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* No slip rate data have been reported, but the fault zone likely has a low slip rate similar to other regional faults.
Date and Compiler(s)	1997 Philip A. Pearthree, Arizona Geological Survey
References	#2073 Menges, C.M., and Pearthree, P.A., 1983, Map of neotectonic (latest Pliocene-Quaternary) deformation in Arizona: Arizona Geological Survey Open-File Report 83-22, 48 p., scale 1:500,000.