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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.

Casner Cabin fault zone (Class A) No. 960

Last Review Date: 1997-01-06

Compiled in cooperation with the Arizona Geological Survey

citation for this record: **Pearthree, P.A., compiler, 1997, Fault number 960, Casner Cabin fault zone, 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 03:13 PM.**

Synopsis	The Casner Cabin fault zone forms two fairly sharply defined, narrow grabens on Paleozoic bedrock and Pliocene volcanic rocks. Total vertical displacement is at least 40 m. Middle to late Quaternary faulting is likely because a middle Pleistocene alluvial fan in one of the grabens is probably displaced at least 3 m.
Name comments	Mapped but not named by Menges and Pearthree (1983 #2073), later investigated and named by Pearthree and others (1996 #2153). The geology of the area was mapped by Ulrich and others (1984 #2157).
County(s) and	COCONINO COUNTY, ARIZONA

State(s)	COCONINO COUNTY, ARIZONA
Physiographic province(s)	COLORADO PLATEAUS
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Trace mapped at 1:100,000 scale, transferred to 1:250,000-scale topographic base map.
Geologic setting	This is one of several fault zones located near the Mogollon Rim (Colorado Plateaus margin) southwest of the Quaternary volcanic rocks of the San Francisco field, but in an area covered by extensive Pliocene and upper Miocene volcanic rocks. The faults cut Paleozoic rocks, Pliocene volcanic rocks, and probably middle Pleistocene alluvium.
Length (km)	10 km.
Average strike	N°62W
Sense of movement	Normal *Comments:* Predominantly normal movement is inferred from topographic relations.
Dip Direction	NE; SW
Paleoseismology studies	
Geomorphic expression	The faults form two narrow (<300-m-wide), moderately deep (ca. 40 m) physiographic troughs on Paleozoic bedrock and Pliocene volcanic rocks. Escarpments bounding the troughs are moderately steep; at one locality, a possible fault scarp on a middle Pleistocene(?) alluvial fan has been identified (Pearthree and others, 1996 #2153).
Age of faulted surficial deposits	Paleozoic, Pliocene, middle Pleistocene (?)
Historic earthquake	
Most recent	middle and late Quaternary (<750 ka)

prehistoric deformation	*Comments:* Middle Pleistocene(?) alluvium is probably faulted at least 3 m. The relatively sharp geomorphic expression of the bedrock escarpments is consistent with Quaternary fault activity.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* A low long-term slip rate is suggested by at least 3 m of displacement of middle(?) Pleistocene alluvium (130-500 ka).
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. #2153 Pearthree, P.A., Vincent, K.R., Brazier, R., and Hendricks, D.M., 1996, Plio-Quaternary faulting and seismic hazard in the Flagstaff area, northern Arizona: Arizona Geological Survey Bulletin 200, 40 p., 2 pls. #2157 Ulrich, G.E., Billingsley, G.H., Hereford, R., Wolfe, E.W., Nealey, L.D., and Sutton, R.L., 1984, Maps showing geology, structure, and uranium deposits of the Flagstaff 1° by 2° quadrangle, Arizona: U.S. Geological Survey Miscellaneous Investigations Map I-1446, 2 sheets, scale 1:250,000.