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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.

Pedrogosa fault (Class A) No. 928

Last Review Date: 1996-01-03

Compiled in cooperation with the Arizona Geological Survey

citation for this record: **Pearthree, P.A., compiler, 1996, Fault number 928, Pedrogosa fault, 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	A discontinuous, north to northeast-trending fault scarp is formed on Quaternary basalt flows and alluvium on the east side of the Pedrogosa Mountains, which lie at the western margin of the San Bernardino Valley in southeasternmost Arizona. There has been as much as 15 m of displacement of lower to middle Pleistocene alluvium, but a basalt flow of probable middle Pleistocene age is not faulted, implying that the fault was only active in the early to middle Pleistocene.
Name comments	Mapped and named by Menges and Pearthree (1983 #2073); further described by Machette and others (1986 #1033); corresponds to parts of the Buck Creek and Perilla faults as mapped by Drewes (1980 #3462).

County(s) and State(s)	COCHISE COUNTY, ARIZONA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Mapped at 1:130,000-scale on aerial photographs, field-checked on a reconnaissance basis, compiled at 1:250,000 on a topographic base by Machette and others (1986 #1033).
Geologic setting	The fault is on the west side of the San Bernardino Valley, near the base of the Pedrogosa Mountains. The geometry of the structural basin associated with this valley is complex, but is deepest along the western side of the valley (Lynch, 1978 #2114). The Pliocene-Quaternary San Bernardino volcanic field, which has flows ranging from about 3 Ma to 270 ka in age, covers much of the valley.
Length (km)	26 km.
Average strike	N16°E
Sense of movement	Normal *Comments:* Inferred from topography and regional geology and structure.
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	Moderately high (5-15 m), gentle scarps are formed on lower to middle Pleistocene alluvial-fan remnants. No scarp is evident on an undated, middle Pleistocene (?) basalt flow that crosses the fault.
Age of faulted surficial deposits	Early to middle Pleistocene. The ages of deposit are estimated using geomorphic surface characteristics and the topographic position of the deposits in the landscape.
Historic earthquake	

Most recent prehistoric deformation	middle and late Quaternary (<750 ka) *Comments:* Fault scarps on early to middle Pleistocene fans are about 5 to 15 m high. A fairly young basalt flow crosses the fault and is not displaced. This particular flow has not been dated, but dates for the San Bernardino volcanic field range from about 3 Ma to 270 ka. The unfaulted flow is low in the landscape and thus could be fairly young; it may be middle Pleistocene (130-750 ka). This evidence suggests that the Pedrogosa fault was active in the early to middle Quaternary, but has not been active for the past 130 k.y.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* This fault may not have been active in the past 130 k.y. and there has been less than 15 m of vertical displacement in the Quaternary. Thus, the slip rate is probably less than 0.2 mm/yr.
Date and Compiler(s)	1996 Philip A. Pearthree, Arizona Geological Survey
References	#3462 Drewes, H., 1980, Tectonic map of southeastern Arizona: U.S. Geological Survey Miscellaneous Investigations Map I-1109, scale 1:125,000. #2114 Lynch, D.J., 1978, The San Bernardino volcanic field of southeastern Arizona, *in* Callender, J.F., Wilt, J.C., Clemons, R.E., and James, H.L., eds., Land of Cochise—southeastern Arizona: New Mexico Geological Society, 29th Field Conference, November 9-11, 1978, Guidebook, p. 261-268. #1033 Machette, M.N., Personius, S.F., Menges, C.M., and Pearthree, P.A., 1986, Map showing Quaternary and Pliocene faults in the Silver City 1° x 2° quadrangle and the Douglas 1° x 2° quadrangle, southeastern Arizona and southwestern New Mexico: U.S. Geological Survey Miscellaneous Field Studies Map MF-1465-C, 12 p. pamphlet, 1 sheet, scale 1:250,000. #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.

Questions or comments?

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