

# 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](#).

## Clifton faults (Class A) No. 939

Last Review Date: 1995-12-13

## Compiled in cooperation with the Arizona Geological Survey

*citation for this record:* Pearthree, P.A., compiler, 1995, Fault number 939, Clifton faults, 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.

<b>Synopsis</b>	These two NW-trending, en echelon normal faults clearly cut upper Cenozoic basin-fill deposits and alluvial-fan remnants of probable upper Pliocene to lower Quaternary age. The total length of the faults is about 40 km. Scarps on Pliocene-Quaternary fan remnants are as high as 10-15 m, but no evidence of late Quaternary fault activity has been discovered.
<b>Name comments</b>	Mapped by several workers, but named and inferred to have Quaternary activity by Menges and Pearthree (1983 #2073). Also referred to as the Ward Canyon and Maverick Hill fault zones by Machette and others (1986 #1033).
<b>County(s) and</b>	GREENLEE COUNTY, ARIZONA

<b>State(s)</b>	GREENLEE COUNTY, ARIZONA
<b>Physiographic province(s)</b>	BASIN AND RANGE
<b>Reliability of location</b>	Good Compiled at 1:250,000 scale.  <i>Comments:</i> Faults mapped using 1:130,000-scale aerial photos, transferred to 1:250,000-scale topographic base.
<b>Geologic setting</b>	These faults are at the northeastern margin of a northwest-trending structural basin and probably part of range-bounding fault system that has substantial total displacement. The sedimentary basin is probably quite shallow, however, with less than about 300 m of basin-fill sediment. Faults displace the highest-level basin-fill deposits, and poorly preserved relict alluvial-fan surfaces are displaced by about 10 to 15 m.
<b>Length (km)</b>	14 km.
<b>Average strike</b>	N49°W
<b>Sense of movement</b>	Normal  <i>Comments:</i> A steeply dipping normal fault is exposed near Clifton, in Ward Canyon.
<b>Dip Direction</b>	SW  <i>Comments:</i> Faults are thought to dip steeply.
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	Faulting has generated high, fairly gentle scarps on upper Cenozoic basin-fill deposits and alluvial-fan deposits of probable upper Pliocene to lower Quaternary age. These scarps are as much as 15-20 m high and have maximum slope angles of 10° to 12°.
<b>Age of faulted surficial deposits</b>	Pliocene to early Quaternary
<b>Historic</b>	

<b>earthquake</b>	
<b>Most recent prehistoric deformation</b>	undifferentiated Quaternary (<1.6 Ma) <i>Comments:</i> Quaternary fault activity is not certain, but early Quaternary activity is likely based on displacement of high fan remnants. No clear evidence of late Quaternary faulting has been documented.
<b>Recurrence interval</b>	
<b>Slip-rate category</b>	Less than 0.2 mm/yr <i>Comments:</i> A low slip rate is inferred based on 10-15 m of offset of lower Pleistocene(?) fan deposits.
<b>Date and Compiler(s)</b>	1995 Philip A. Pearthree, Arizona Geological Survey
<b>References</b>	#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.

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