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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.

unnamed fault near Hanging Rock Canyon (Class A) No. 1481

Last Review Date: 1998-07-19

citation for this record: **Sawyer, T.L., compiler, 1998, Fault number 1481, unnamed fault near Hanging Rock Canyon, 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 02:50 PM.**

Synopsis	This fault is one in a distributed group of northeast-striking intra-plateau that displace Tertiary volcanic and sedimentary rocks, which extends from south slope of Nut Mountain southwest across Hanging Rock Canyon and upper High Rock Canyon to north of Grassy Rock. The fault shown here controls the regional contact between the Tertiary Canyon Rhyolite to the northwest and High Rock sequence of Tertiary sedimentary and volcanic rocks to the southeast, and places Quaternary deposits against Tertiary rocks. Quaternary movement is suspected based on its expression as a major topographic escarpment. Reconnaissance photogeologic of the fault zone and detailed geologic mapping are the sources of data. Trench investigations and detailed studies of scarp morphology have not been conducted.

Name comments	Fault mapped by Bonham (1969 #2999), Ach (1988 #3000), and Dohrenwend and Moring (1991 #281) approximately centered on Hanging Rock Canyon.
County(s) and State(s)	WASHOE COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Fault locations are primarily based on 1:250,000-scale map of Dohrenwend and Moring (1991 #281) and in the High Rock Canyon area include a fault trace from the 1:24,000-scale geologic map of Ach (1988 #3000). Mapping by Dohrenwend and Moring (1991 #281) from photogeologic analysis of 1:58,000-nominal-scale color-infrared photography transferred directly to 1:100,000-scale topographic quadrangle maps enlarged to scale of the photographs and then reduced and transferred to 1:250,000-scale topographic maps.
Geologic setting	This fault is one in a distributed group of northeast-striking intra-plateau that displace Tertiary volcanic and sedimentary rocks, which extends from south slope of Nut Mountain southwest across Hanging Rock Canyon and upper High Rock Canyon to north of Grassy Rock (Bonham, 1969 #2999; Ach, 1988 #3000; Dohrenwend and Moring, 1991 #281). The fault shown here controls the regional contact between the Tertiary Canyon Rhyolite to the northwest and High Rock sequence of Tertiary sedimentary and volcanic rocks to the southeast (Bonham, 1969 #2999).
Length (km)	15 km.
Average strike	N38°E
Sense of movement	Normal *Comments:* Normal faults as indicated by Ach (1988 #3000).
Dip Direction	SE
Paleoseismology studies	

Geomorphic expression	Fault bounds dissected topographic escarpments, possibly suggesting young movement. The fault is shown to Juxtapose Quaternary deposits against Tertiary rock (Dohrenwend and Moring, 1991 #281). Quaternary movement is suspected for this fault based on its expression as a major topographic escarpment.
Age of faulted surficial deposits	Tertiary. Tertiary volcanic and sedimentary rocks (Ach, 1988 #3000; Dohrenwend and Moring, 1991 #281).
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Although timing of most recent event is not well constrained, a Quaternary time is suspected for based on reconnaissance photogeologic mapping by Dohrenwend and Moring (1991 #281).
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* A low slip rate is inferred from general knowledge of slip rates estimated for other faults in the region and height of topographic escarpments on resistant Tertiary volcanic rocks.
Date and Compiler(s)	1998 Thomas L. Sawyer, Piedmont Geosciences, Inc.
References	#3000 Ach, J.A., 1988, Geologic map of the Yellow Hills quadrangle, Washoe County, Nevada: U.S. Geological Survey Miscellaneous Field Studies Map MF-2028, scale 1:24,000. #2999 Bonham, H.F., 1969, Geology and mineral deposits of Washoe and Storey Counties, Nevada: Nevada Bureau of Mines and Geology Bulletin 70, 140 p., 1 pl., scale 1:250,000. #281 Dohrenwend, J.C., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the Vya 1° by 2° quadrangle, Nevada, Oregon, and California: U.S. Geological Survey Miscellaneous Field Studies Map MF-2174, 1 sheet, scale 1:250,000.