Jump to Navigation

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.

Mexican Butte fault (Class A) No. 1347

Last Review Date: 1998-08-01

citation for this record: **Sawyer, T.L., compiler, 1998, Fault number 1347, Mexican Butte 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 02:14 PM.**

Synopsis	This short zone of right-stepping echelon normal faults bounds irregular west flank of southern Monitor Range, including a large range-front embayment, and has piedmont faults in eastern Ralston Valley. Reconnaissance photogeologic mapping of these faults is the source of data. Trench investigations and studies of scarp morphology have not been completed.
Name comments	Refers to a series of faults mapped by Dohrenwend and others (1996 #2846) along the southern Monitor Range and in eastern Ralston Valley. Fault extends from Antelope Peak, northward along the west side of Mexican Butte and Sheep Mountain, to Hunts Canyon.
County(s) and State(s)	NYE COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE

Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Location primarily based on unpublished map of the Tonopah 1?x2? sheet by J.C. Dohrenwend published at 1:100,000-scale by Dohrenwend and others (1996 #2846) 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.
Geologic setting	This short zone of right-stepping echelon normal faults bounds irregular west flank of southern Monitor Range, including a large range-front embayment, and has piedmont faults in eastern Ralston Valley.
Length (km)	26 km.
Average strike	N3°W
Sense of movement	Normal *Comments:* (Schell, 1981 #2844)
Dip Direction	W; E
Paleoseismology studies	
Geomorphic expression	The fault zone is expressed by discontinuous faults juxtaposing Quaternary alluvium against bedrock, and by scarps on alluvial fan deposits (Schell, 1981 #2843; 1981 #2844; Dohrenwend and others, 1996 #2846).
Age of faulted surficial deposits	Quaternary (Dohrenwend and others, 1996 #2846); Pleistocene to late Tertiary (Schell, 1981 #2844)
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* The timing of most recent prehistorical event is not well constrained. Reconnaissance photogeologic mapping by Dohrenwend and others (1996 #2846) and photogeologic mapping and some field verification by Schell (1981 #2844)

	indicates that the most recent prehistoric faulting event is Quaternary.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* No age or displacement data are reported that could constrain the slip rate. The late Quaternary characteristics of this fault (overall geomorphic expression, continuity of scarps, age of faulted deposits, etc.) support a low slip rate. Accordingly, the less than 0.2 mm/yr slip-rate category has been assigned to this fault.
Date and Compiler(s)	1998 Thomas L. Sawyer, Piedmont Geosciences, Inc.
References	#2846 Dohrenwend, J.C., Schell, B.A., Menges, C.M., Moring, B.C., and McKittrick, M.A., 1996, Reconnaissance photogeologic map of young (Quaternary and late Tertiary) faults in Nevada, *in* Singer, D.A., ed., Analysis of Nevada's metal-bearing mineral resources: Nevada Bureau of Mines and Geology Open-File Report 96-2, 1 pl., scale 1:1,000,000. #2843 Schell, B.A., 1981, Faults and lineaments in the MX Sitting Region, Nevada and Utah, Volume I: Technical report to U.S. Department of [Defense] the Air Force, Norton Air Force Base, California, under Contract FO4704-80-C-0006, November 6, 1981, 77 p. #2844 Schell, B.A., 1981, Faults and lineaments in the MX Siting Region, Nevada and Utah, Volume II: Technical report to U.S. Department of [Defense] the Air Force, Norton Air Force Base, California, under Contract FO4704-80-C-0006, November 6, 1981, 29 p., 11 pls., scale 1:250,000.