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.

Monitor Hills West fault (Class A) No. 1111

Last Review Date: 1999-02-25

citation for this record: **Anderson, R.E., compiler, 1999, Fault number 1111, Monitor Hills West 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 02:18 PM.**

Synopsis	The Monitor Hills West fault strikes mostly north and is developed on the piedmont slope of the west flank of the Monitor Hills. Fault traces are mostly defined by weakly expressed lineaments or scarps on Quaternary deposits; these features do not appear to follow a conspicuous topographic escarpment, perhaps indicating they do not express a block-boundary structure to the Monitor Hills. Photogeologic mapping is the main source of data for this fault. The age of the last Quaternary displacement even is unknown, and no information exists on the style of faulting, slip rate, or recurrence interval.
Name comments	Name taken from Piety (1995 #915) who applied it to a group of short (<5 km), discontinuous mostly north-striking faults that extend along west flank of the Monitor Hills north of the Cactus Range and east of Ralston Valley. These faults are shown on a 1:100,000-scale photogeologic map by Reheis (1992 #1604), but

	are not shown on 1:250,000-scale photogeologic maps by Schell (1981 #2844) and Dohrenwend and others (1992 #289); they are shown on a compilation of Quaternary faults by Piety (1995 #915). **Fault ID:** Referred to as MHW by Piety (1995 #915).
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 is from Reheis (1992 #1604) who compiled the fault on a 1:100,000-scale topographic map from photogeologic study of aerial photographs at scales ranging from 1:60,000 to 1:80,000.
Geologic setting	The faults form a 1- to 2 km-wide zone developed on the piedmont west of the topographically subdued Monitor Hills; near the south end of the main fault zone, a fault strand branches south-southwestward and extends into Ralston Valley (Reheis, 1992 #1604). The fault is not shown on the 1:250,000-scale geologic map of northern Nye County (Cornwall, 1972 #1482), and is also not shown on 1:250,000-scale photogeologic maps by Schell (1981 #2844) and Dohrenwend and others (1992 #289). It is unclear if it is a range-front fault to the Monitor Hills.
Length (km)	15 km.
Average strike	N1°W
Sense of movement	Normal *Comments:* Reheis (1992 #1604) shows most faults as west-facing features, possibly indicating they are down-to-the west normal faults.
Dip Direction	W *Comments:* Unknown, inferred to be west based on photogeologic mapping by Reheis (1992 #1604), shows most faults as west-facing features, possibly indicating that the faults also dip in that

	direction.
Paleoseismology studies	
Geomorphic expression	Mostly weakly expressed as lineaments or west-facing scarps on Quaternary deposits with a short (about 2 km) trace at the south end shown as moderately well expressed in Quaternary deposits.
Age of faulted surficial deposits	Quaternary. Photogeologic mapping by Reheis (1992 #1604) shows scarps and lineaments on undivided Quaternary deposits or surfaces. Detailed mapping and subdivision of Quaternary deposits and surfaces have not been done in this area.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Photogeologic mapping by Reheis (1992 #1604) indicates that the faults are expressed on undivided Quaternary deposits or surfaces. Detailed mapping and study of Quaternary deposits and fault-related features have not been done in this area.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* No scarp-height or displacement data are available. The late Quaternary characteristics of this fault (overall geomorphic expression, continuity of scarps, age of faulted deposits, etc.) suggest 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)	1999 R. Ernest Anderson, U.S. Geological Survey, Emeritus
References	#1482 Cornwall, H.R., 1972, Geology and mineral deposits of southern Nye County, Nevada: Nevada Bureau of Mines and Geology Bulletin 77, 49 p., 1 pl., scale 1:250,000. #289 Dohrenwend, J.C., Schell, B.A., McKittrick, M.A., and Moring, B.C., 1992, Reconnaissance photogeologic map of young faults in the Goldfield 1° by 2° quadrangle, Nevada and California: U.S. Geological Survey Miscellaneous Field Studies Map MF-2183, 1 sheet, scale 1:250,000.

	#915 Piety, L.A., 1995, Compilation of known and suspected Quaternary faults within 100 km of Yucca Mountain, Nevada and California: U.S. Geological Survey Open-File Report 94-112, 404 p., 2 pls., scale 1:250,000. #1604 Reheis, M.C., 1992, Aerial photographic interpretation of lineaments and faults in late Cenozoic deposits in the Cactus Flat and Pahute Mesa 1:100,000 quadrangles and the western parts of the Timpahute Range, Pahranagat Range, Indian Springs, and Las Vegas 1:100,000 quadrangles, Nevada: U.S. Geological Survey Open-File Report 92-193, 14 p., 3 pls., scale 1:100,000. #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.