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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.

Monitor Hills East fault (Class A) No. 1112

Last Review Date: 1999-02-25

citation for this record: **Anderson, R.E., compiler, 1999, Fault number 1112, Monitor Hills East 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 East fault is a short zone of indistinct lineaments or scarps formed on Tertiary and Quaternary deposits along the gently east-sloping east flank of the Monitor Hills. Photogeologic mapping is the main source of data for these faults. No data are available on displacement, recurrence times or slip rate, and the tectonic significance of the structure is not reported.
Name comments	Name taken from Piety (1995 #915) who applied it to a group of short (<3 km), discontinuous mostly north-striking faults that extend along, and are confined to, the east flank of the Monitor Hills north of the Cactus Range. 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: Fault referred to as MHE 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 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 short (<8 km), north-broadening (up to 3-km-wide) zone of generally north-striking faults on the gently east-sloping east margin of the topographically subdued Monitor Hills (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 block-bounding fault to the Monitor Hills.
Length (km)	8 km.
Average strike	N3°E
Sense of movement	Normal *Comments:* Inferred from the northerly strike of this fault which, for most faults in this region, indicates normal sense of movement.
Dip Direction	E; W *Comments:* Reheis (1992 #1604) shows fault scarps along the southern part of the fault as facing both east and west, possibly suggesting dips in those directions and perhaps indicating the presence of small horsts and grabens along the fault.
Paleoseismology	

studies	
Geomorphic expression	Reheis (1992 #1604) shows three north-trending lineaments on Tertiary deposits along the north part of the fault and shows several weakly expressed lineaments and scarps on Quaternary deposits or surfaces along the south part.
Age of faulted surficial deposits	On the basis of photogeologic interpretation, Reheis (1992 #1604) shows lineaments and scarps developed on undivided Quaternary deposits or surfaces along the south part of the fault. 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.