

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](#).

Murphy Meadows fault (Class A) No. 1396

Last Review Date: 1998-06-29

citation for this record: Sawyer, T.L., compiler, 1998, Fault number 1396, Murphy Meadows 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 northeast-striking zone of down-to-the-northwest normal faults bounds low hills at north end of the Seaman Range and has a linear fault that crosses piedmont slope in White River Valley, south of Murphy Meadows. Reconnaissance photogeologic mapping of the fault and limited analysis of scarp morphology are the sources of data. Trench investigations and detailed studies of scarp morphology have not been completed.
Name comments	Refers to the Murphy Meadows fault mapped and named of Schell (1981 #2844) and subsequently mapped by Dohrenwend and others (1991 #287). The fault obliquely crosses from Coal Valley northeastward to White River Valley at the northernmost end of Seaman Range. Fault ID: Refers to fault 143 on Plate A6 in Schell (1981 #2844).
County(s) and	

County(s) and State(s)	NYE COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	<p>Good Compiled at 1:100,000 scale.</p> <p><i>Comments:</i> Location based on 1:250,000-scale maps of Schell (1981 #2844) and of Dohrenwend and others (1991 #287). Original mapping by Schell (1981 #2843; 1981 #2844) based on photogeologic analysis of primarily 1:24,000-scale color aerial photography supplemented with 1:60,000-scale black-and-white aerial photography, transferred by inspection to 1:62,500-scale topographic maps and photographically reduced and directly transferred to 1:250,000-scale topographic maps, and field verification. Mapping by Dohrenwend and others (1991 #287) based on 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.</p>
Geologic setting	This northeast-striking zone of down-to-the-northwest normal faults bounds low hills at north end of the Seaman Range and has a linear fault that crosses piedmont slope in White River Valley, south of Murphy Meadows.
Length (km)	8 km.
Average strike	N54°E
Sense of movement	<p>Normal</p> <p><i>Comments:</i> (Schell, 1981 #2844).</p>
Dip Direction	NW
Paleoseismology studies	
Geomorphic expression	The fault is marked by moderately high (less than or equal to 11 m), moderately defined (11?) scarps and lineaments on Quaternary alluvium (Schell, 1981 #2844; Dohrenwend and others, 1991 #287); location of scarp measurement is uncertain.
Age of faulted	

surficial deposits	Late Pleistocene and Tertiary.
Historic earthquake	
Most recent prehistoric deformation	late Quaternary (<130 ka) <i>Comments:</i> Although timing of most recent prehistorical event is not well constrained, Schell (1981 #2844) suggested a late Pleistocene (<15-700 ka; probably <200 k.y.) time based on scarp morphology, spatial distribution, and development of desert pavement, desert varnish, and soils of faulted deposits. Dohrenwend and others (1991 #287) suggested an undifferentiated Pleistocene time for the most recent activity based on photogeologic analysis. The scarp data reported by Schell (1981 #2844) suggests that the most recent event could be since 130 ka.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr <i>Comments:</i> A low slip rate is inferred from general knowledge of slip rates estimated for other faults in the region.
Date and Compiler(s)	1998 Thomas L. Sawyer, Piedmont Geosciences, Inc.
References	#287 Dohrenwend, J.C., Schell, B.A., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the Lund 1° by 2° quadrangle, Nevada and Utah: U.S. Geological Survey Miscellaneous Field Studies Map MF-2180, 1 sheet, scale 1:250,000. #2843 Schell, B.A., 1981, Faults and lineaments in the MX Siting 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.

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