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.

Dutch John Mountain fault (Class A) No. 1417

Last Review Date: 1998-06-29

citation for this record: **Sawyer, T.L., compiler, 1998, Fault number 1417, Dutch John Mountain 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 02:04 PM.**

Synopsis	This short down-to-the-west range-front normal fault bounds west sides of Dutch John Mountain and Grassy Mountain. 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 the Dutch John Mountain fault mapped and named by Schell (1981 #2844) and subsequently mapped by Dohrenwend and others (1991 #287). The fault extends from Kixmiller Summit, along the east edge of northernmost Muleshoe Valley, to north end of Dutch John Mountain. **Fault ID:** Refers to fault 82 on Plate A6 in Schell (1981 #2844) and shown on Drawing 3-2 in Schell (1981 #2857).
County(s) and	LINCOLN COUNTY, NEVADA

State(s)	LINCOLN COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Location based on 1:250,000-scale maps of Schell (1981 #2844) and of Dohrenwend and others (1991 #287) and 1:125,000-scale map of Schell (1981 #2857). Original mapping 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 1:125,000-scale or 1:250,000-scale topographic maps, and subsequent field verification (Schell, 1981 #2843; 1981 #2857). 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.
Geologic setting	This relatively short down-to-the-west range-front normal fault bounds west sides of Dutch John Mountain and Grassy Mountain.
Length (km)	9 km.
Average strike	N6°E
Sense of movement	Normal *Comments:* (Schell, 1981 #2844)
Dip Direction	W
Paleoseismology studies	
Geomorphic expression	The fault is marked by fault scarps juxtaposing Quaternary alluvium against bedrock and by lineaments on Tertiary deposits (Schell, 1981 #2857; Dohrenwend and others, 1991 #287).
Age of faulted surficial deposits	Quaternary and Tertiary (Dohrenwend and others, 1991 #287).

Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Although timing of the most recent event is not well constrained, Dohrenwend and others (1991 #287) suggested a Quaternary time based on a reconnaissance photogeologic study. Schell (1981 #2857) suggested the fault is probably Pliocene or younger, but that Quaternary deposits are not present across the fault.
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.
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 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. #2857 Schell, B.A., 1981, MX Siting Investigation, geotechnical evaluation, verification study, Muleshoe Valley, NV, Volume I—Synthesis: Technical report to U.S. Department of [Defense] the Air Force, Norton Air Force Base, California, November 6, 1981, scale 1:125,000.