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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.

North Big Sand Springs fault (Class A) No. 1370

Last Review Date: 1998-07-11

citation for this record: **Sawyer, T.L., compiler, 1998, Fault number 1370, North Big Sand Springs 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 distributed group of predominantly down-to-the-east normal faults bounding graben and horst on the piedmont slope of northern Big Sand Springs Valley and bounding the east flank of a low ridge of hills (horst) between that valley and Little Smoky Valley. Reconnaissance photogeologic mapping of tectonic geomorphic features is the source of data. Trench investigations and studies of scarp morphology have not been completed.
Name comments	Refers to faults mapped by Schell (1981 #2844) and Dohrenwend and others (1991 #287) in northern Big Sand Springs Valley, about 10 km southeast of Brown Summit. **Fault ID:** Refers to fault 4 on Plate A6 of Schell (1981 #2844).
County(s) and	

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 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.
Geologic setting	This distributed group of predominantly down-to-the-east normal faults bounding graben and horst on the piedmont slope of northern Big Sand Springs Valley and bounding the east flank of a low ridge of hills (horst) between that valley and Little Smoky Valley.
Length (km)	17 km.
Average strike	N17°E
Sense of movement	Normal *Comments:* (Schell, 1981 #2844)
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	The fault is expressed by scarps and lineaments crossing the piedmont slope on Quaternary deposits and by scarps juxtaposing Quaternary alluvium against bedrock (Schell, 1981 #2844; Dohrenwend and others, 1991 #287).

Age of faulted surficial deposits	Late Pleistocene (possibly) along front of low hills (Schell, 1981 #2844) and along southernmost fault (Dohrenwend and others, 1991 #287).
Historic earthquake	
Most recent prehistoric deformation	late Quaternary (<130 ka) *Comments:* Although timing of most recent prehistoric event is not well constrained, Schell (1981 #2844) suggested probably late Pleistocene based on photogeologic studies.
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.