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.

unnamed fault east of Little Smoky Valley (Class A) No. 1368

Last Review Date: 1998-08-01

citation for this record: **Sawyer, T.L., compiler, 1998, Fault number 1368, unnamed fault east of Little Smoky Valley, 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 02:13 PM.**

Synopsis	This high-angle down-to-the-west normal fault zone bounds the east side of Little Smoky Valley and includes piedmont faults in the southernmost part of the valley; crossing a low divide between that valley and Big Sand Springs Valley. Reconnaissance photogeologic, bedrock mapping, 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	The northern part of the fault zone refers to the Moody Peak fault mapped by Schell (1981 #2844) and Dohrenwend and others (1992 #283; 1992 #2480); the southern part refers to unnamed faults mapped by Dixon and others (1972 #2937), Schell (1981 #2844), and by Dohrenwend and others (1991 #287; 1996 #2846). This distributed zone of faults extends along the eastern side of

	Little Smoky Valley from the southern end of the valley to west of Moody Peak. **Fault ID:** Refers in part to fault 66 on Plates A2, A3, A6 and A7 of Schell (1981 #2844).
County(s) and State(s)	NYE COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Location based on 1:250,000-scale maps of Schell (1981 #2844) and of Dohrenwend and others (1991 #287; 1996 #2846). 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 subsequent field verification. Mapping by Dohrenwend and others (1991 #287; 1996 #2846) 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 high-angle down-to-the-west normal fault zone borders the east side of Little Smoky Valley and includes piedmont faults in the southernmost part of the valley; crossing a low divide between that valley and Big Sand Springs Valley.
Length (km)	33 km.
Average strike	N16°E
Sense of movement	Normal *Comments:* (Dixon and others, 1972 #2937; Schell, 1981 #2844)
Dip	55°W
Paleoseismology studies	

Geomorphic expression	The fault is expressed by low (less than or equal to 4 m), subtle (less than or equal to 4.5? maximum slope angle) scarps and lineaments on Quaternary deposits and by scarps juxtaposing Quaternary alluvium against Tertiary volcanics and against bedrock (Dixon and others, 1972 #2937; Schell, 1981 #2844; Dohrenwend and others, 1991 #287; 1996 #2846).
Age of faulted surficial deposits	Late Pleistocene alluvium, Quaternary deposits, and middle Tertiary volcanics (Dixon and others, 1972 #2937; Schell, 1981 #2844; Kleinhampl and Ziony, 1985 #2851; Dohrenwend and others, 1991 #287; 1996 #2846).
Historic earthquake	
Most recent prehistoric deformation	late Quaternary (<130 ka) *Comments:* Although the timing of most recent prehistorical event is not well constrained, Schell (1981 #2844) suggested late Pleistocene for faults near the north end of the fault zone based on photogeologic analysis and scarp morphology. Dohrenwend and others (1991 #287; 1996 #2846) suggested Quaternary based on reconnaissance photogeologic studies. Dixon and others (1972 #2937) showed the fault cutting Quaternary-Tertiary alluvium that was subsequently mapped as Quaternary alluvium by Kleinhampl and Ziony (1985 #2851).
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	#2937 Dixon, G.L., Hedlund, D.C., and Ekren, E.B., 1972, Geologic map of the Pritchards Station quadrangle, Nye County, Nevada: U.S. Geological Survey Miscellaneous Investigations Map I-728, scale 1:48,000. #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.

#2480 Dohrenwend, J.C., Schell, B.A., and Moring, B.C., 1992, Reconnaissance photogeologic map of young faults in the Ely 1° by 2° quadrangle, Nevada and Utah: U.S. Geological Survey Miscellaneous Field Studies Map MF-2181, 1 sheet, scale 1:250,000.

#283 Dohrenwend, J.C., Schell, B.A., and Moring, B.C., 1992, Reconnaissance photogeologic map of young faults in the Millett 1° by 2° quadrangle, Nevada: U.S. Geological Survey Miscellaneous Field Studies Map MF-2176, 1 sheet, scale 1:250,000.

#2846 Dohrenwend, J.C., Schell, B.A., Menges, C.M., Moring, B.C., and McKittrick, M.A., 1996, Reconnaissance photogeologic map of young (Quaternary and late Tertiary) faults in Nevada, *in* Singer, D.A., ed., Analysis of Nevada's metal-bearing mineral resources: Nevada Bureau of Mines and Geology Open-File Report 96-2, 1 pl., scale 1:1,000,000.

#2851 Kleinhampl, F.J., and Ziony, J.I., 1985, Geology of Northern Nye County, Nevada: Nevada Bureau of Mines and Geology Bulletin 99A, 172 p.

#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.