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.

Rattlesnake Flat fault zone (Class A) No. 1304

Last Review Date: 1998-09-24

citation for this record: **Adams, K., compiler, 1998, Fault number 1304, Rattlesnake Flat fault zone, 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 02:15 PM.**

Synopsis	This short, discontinuous strike-slip fault is in Rattlesnake Flat. Reconnaissance photogeologic mapping of surficial deposits and young faults and general bedrock mapping are the sources of data. Trench Investigations and studies of scarp morphology have not been conducted for this group of faults.
Name comments	Refers to faults along the edge of Rattlesnake Flat mapped by Dohrenwend (1982 #2481; 1982 #2870:, 1982 #2900). dePolo (1998 #2845) named it the Rattlesnake Flat fault zone. **Fault ID:** Includes fault number WL23 (Rattlesnake Flat fault zone) of dePolo (1998 #2845).
County(s) and State(s)	MINERAL COUNTY, NEVADA
Physiographic	BASIN AND RANGE

province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Locations primarily based on 1:62,500-scale (Dohrenwend, 1982 #2900) and 1:250,000-scale maps (Dohrenwend, 1982 #2481; 1982 #2870); small-scale mapping by 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	
Length (km)	15 km.
Average strike	N76°E
Sense of movement	Left lateral *Comments:* dePolo (1998 #2845) indicates that this fault is characterized by strike-slip movement. Thus, sinistral movement is inferred based on the the strike of the fault, and a subordinate normal sense of movement is inferred based on topographic relief.
Dip Direction	V
Paleoseismology studies	
Geomorphic expression	Fault is expressed as strong topographic lineaments delineated by aligned drainages, saddles, and sidehill benches (Dohrenwend, 1982 #2900) defining Rattlesnake Flat.
Age of faulted surficial deposits	Holocene to Tertiary. Many faults displace or juxtapose Holocene to upper Pleistocene alluvium against bedrock, while other faults only displace bedrock (Dohrenwend, 1982 #2900). However, Quaternary movement on the bedrock faults is suspected because of their similar orientation and proximity to the demonstrably active faults.
Historic earthquake	
Most recent prehistoric deformation	latest Quaternary (<15 ka) *Comments:* Although the most recent event is not well constrained, a latest Quaternary time is indicated by several faults

	mapped by Dohrenwend (1982 #2481; 1982 #2870:, 1982 #2900) that displace Holocene alluvium or juxtapose Holocene alluvium against bedrock.
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 Kenneth Adams, Piedmont Geosciences, Inc.
References	#7943 Bucknam, R.C., 1974, Rattlesnake Flat-Whisky Flat area, *in<> Orkild, P.P., ed., Administrative report—Progress report on the work being done in support of fault-control experiments to be conducted in the Nevada-California seismic zone: U.S. Geological Survey, p. 8–13.* *#2845 dePolo, C.M., 1998, A reconnaissance technique for estimating the slip rate of normal-slip faults in the Great Basin, and application to faults in Nevada, U.S.A.: Reno, University of Nevada, unpublished Ph.D. dissertation, 199 p.* *#2481 Dohrenwend, J.C., 1982, Map showing late Cenozoic faults in the Walker Lake 1° by 2° quadrangle, Nevada-California: U.S. Geological Survey Miscellaneous Field Studies Map MF-1382-D, 1 sheet, scale 1:250,000.* *#2870 Dohrenwend, J.C., 1982, Surficial geologic map of the Walker Lake 1° by 2° quadrangle, Nevada-California: U.S. Geological Survey Miscellaneous Field Studies Map MF-1382-C, 1 sheet, scale 1:250,000.* *#2900 Dohrenwend, J.C., 1982, Preliminary surficial geologic map of the Excelsior Mountains area, west-central Nevada: U.S. Geological Survey Miscellaneous Field Studies Map MF-1372, scale 1:62,500.* *#7207 Wesnousky, S.G., 2005, Active faulting in the Walker Lane: Tectonics, v. 24, TC3009, doi:10.1029/2004TC001645.*

Questions or comments?