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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.

unnamed fault zone west of Garden Valley (Class A) No. 1382

Last Review Date: 1998-06-29

citation for this record: **Sawyer, T.L., compiler, 1998, Fault number 1382, unnamed fault zone west of Garden 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 02:14 PM.**

Synopsis	These down-to-the-east, right-stepping, echelon, range-front faults bound the west side of Garden Valley. Reconnaissance photogeologic mapping of the fault zone supplemented with limited study of scarp morphology are the sources of data. Trench investigations and studies of scarp morphology have not been completed.
Name comments	Includes the Scofield Canyon and Cottonwood Canyon faults named and mapped by Schell (1981 #2844) and mapped by Dohrenwend and others (1991 #287), and fault to the north mapped by Dohrenwend and others (1991 #287). Fault extends from northwest of Worthington Mountain north along flank of Quinn Canyon and Grant Ranges to Blue Eagle Pass.

	Fault ID: Refers to faults 44 and 45 on Plate A6 and A9 of Schell (1981 #2844).
County(s) and State(s)	LINCOLN COUNTY, NEVADA 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	Down-to-the-east, right stepping,echelon range-front normal fault bounding west side of Garden Valley.
Length (km)	45 km.
Average strike	N9°E
Sense of movement	Normal *Comments:* Schell (1981 #2844)
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	Most of the fault is marked by abrupt well-defined fault scarps juxtaposing Quaternary alluvium against bedrock and by lineaments on Quaternary alluvium (Schell, 1981 #2844; Dohrenwend and others, 1991 #287). Scarps on alluvium are mapped only on the southern echelon trace (Dohrenwend and

	others, 1991 #287). Schell (1981 #2844) indicates the y are low (less than or equal to 1 m) and subtle (less than or equal to 5?).
Age of faulted surficial deposits	Pleistocene (Schell, 1981 #2844)
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* The timing of most recent prehistorical event is not well constrained. Dohrenwend and others (1991 #287) indicate that most of the fault should be characterized by Quaternary movement, but some of the southernmost scarps may be on deposits as young as late Pleistocene. Schell (1981 #2844) indicates that the southern two echelon traces are late Pleistocene; however, on a compiled regional map of the area, Schell (1981 #5819) indicates a Quaternary time. Due to the general lack of agreement, even by the same author, we assign the most conservative age category here.
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. #5819 Schell, B.A., 1981, Map of young faults and lineaments in the MX deployment area, east-central Nevada and west-central Utah: 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, 1 pl., scale 1:500,000.