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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.

Connors Canyon fault zone (Class A) No. 1239

Last Review Date: 2000-11-26

citation for this record: **Sawyer, T.L., and Redsteer, M.H., compilers, 2000, Fault number 1239, Connors Canyon 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 02:16 PM.**

Synopsis	The Connors Canyon fault zone consists of down-to the-west normal-slip faults that juxtapose bedrock against Quaternary alluvium. A basinward splay of the range-front fault overlaps with and may provide a link between the Connors Canyon fault and the Southwest Steptoe Valley fault [1410], which extends south. The Connors Canyon fault zone extends along the western front of the Schell Creek Range and defines the eastern margin of Steptoe Valley between Steptoe Creek and the southern end of Steptoe Valley. Reconnaissance photogeologic mapping is the source of data for the Connors Canyon fault. Trench investigations and detailed studies of scarp morphology have not been completed.
Name comments	Refers to the Connors Canyon fault mapped by Schell (1981 #2843; 1981 #2844) and subsequently by Dohrenwend and others (1991 #287; 1992 #2480). Fault extends along east side of southern Steptoe Valley bounding part of the western front of

	Schell Creek Range from approximately 18 km northeast of Lund, across U.S. Highway 93, to the Cave Lake Recreation Area on the north. **Fault ID:** Refers to fault 131 of Schell (1981 #2843).
County(s) and State(s)	WHITE PINE 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; 1992 #2480). 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; 1992 #2480) 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	The Connors Canyon fault zone is typical of Basin and Range extensional faulting. It is a major down-to-the-west range-front fault on the western margin of the Schell Creek Range, and defines the eastern margin of the central Steptoe Valley. A basinward splay of the range-front fault overlaps with and may provide a link between the Connors Canyon fault and the Southwest Steptoe Valley fault [1410], which extends south.
Length (km)	35 km.
Average strike	N11°E
Sense of movement	Normal *Comments:* Shown on geologic map of Schell (1981 #2844).
Dip Direction	W

Paleoseismology studies	
Geomorphic expression	Along most of its length, the fault juxtaposes resistant bedrock against Quaternary alluvium and coincides with an abrupt change in elevation and topography, forming a prominent range-front fault (Dohrenwend and others, 1991 #287; 1992 #2480). However, as described herein, at Steptoe Creek, the range-front fault continues south into Steptoe Valley, whereas en echelon strands step left (east) and continue south along a less abrupt range front. The intrabasin splay fault forms scarps of undocumented height on the Quaternary piedmont adjacent to the Schell Creek Range.
Age of faulted surficial deposits	Early to middle Pleistocene alluvial-fan and piedmont deposits (Dohrenwend and others, 1991 #287; 1992 #2480).
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; 1992 #2480) suggested a Quaternary time based on a reconnaissance photogeologic study. Schell (1981 #2843; 1981 #2844) suggested that the time of the most recent event was indeterminate because of a lack of young deposits extending across the fault.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Low slip-rate category is assigned on the basis of a lack of scarps along the main range front, the presence of mapped fault scarps on early to middle Pleistocene (but not younger) deposits, and relative inactivity of similar distributed faults in the Basin and Range province.
Date and Compiler(s)	2000 Thomas L. Sawyer, Piedmont Geosciences, Inc. Margaret Hisa Redsteer, U.S. Geological Survey
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. #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. #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.