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 faults east of Shoshone Mountains (Class A) No. 1196

Last Review Date: 2000-10-01

citation for this record: **Lidke, D.J., compiler, 2000, Fault number 1196, unnamed faults east of Shoshone Mountains, 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 02:17 PM.**

Synopsis	These northeast-striking faults form a series of discontinuous faults along the eastern flank of the Shoshone Mountains, both north and south of U.S. Highway 50. The faults are relatively short and show down-to-the-southeast offset that places bedrock of the Shoshone Mountains against Quaternary, piedmont-slope deposits of the Reese River Valley. Other faults in the zone are marked by both east- and west-facing fault scarps on the piedmont-slope deposits of the Reese River Valley. There is evidence for at least one Quaternary faulting event that is no older than early Pleistocene and that event, or a younger event, may be as young as late Pleistocene. The fault zone has not been studied in detail, however, and little is actually known with certainty about its nature, character, and movement history. A reconnaissance photogeologic mapping study is the only known source of data for these faults.

Name comments	Refers to discontinuous zone of northeast-striking faults mapped by Dohrenwend and others (1992 #283) that bounds the eastern side of the central part of the Shoshone Mountains and western side of the Reese River Valley. These faults, apparently, have not been named. These faults extend from about 10 km east-northeast of Mount Airy discontinuously southwest along the eastern flank of the Shoshone Mountain past U.S. Highway 50 to about 3 km southeast of Iron Mountain.
County(s) and State(s)	LANDER COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Location is from 1:250,000-scale map of Dohrenwend and others (1992 #283) that shows mapping based on photogeologic analysis of 1:58,000-nominal-scale, color-infrared photography, which was transferred directly to 1:100,000-scale topographic maps enlarged to the scale of the photographs. The 1:100,000-scale fault maps were reduced and compiled at 1:250,000-scale for final publication.
Geologic setting	This discontinuous zone of northeast-striking faults appear to be confined to the eastern flank of the central part of the Shoshone Mountains. They may, however, be a subtle expression and connection between more prominent faults that are present to the north and south [faults 1175 and 1335, respectively) along the eastern flank of the Shoshone Mountains. A few of the unnamed faults juxtapose Tertiary volcanic rock of the central Shoshone Mountains against Quaternary piedmont-slope deposits of the Reese River Valley; other parts of these faults are marked by scarps on piedmont-slope deposits of the valley. The majority of the scarps are east-facing, but west-facing scarps are present along the northern part of this discontinuous zone of faults. The faults that place bedrock against Quaternary deposits show down-to-the-southeast stratigraphic offset, and these offsets combined with the east-facing direction of the majority of the scarps, imply mostly down-to-the-southeast Quaternary movement along this zone of faults. The west-facing scarps may represent antithetic faults and related horst-and-graben structures along the fault zone.

	Quaternary faulting along this zone probably reflects some continued uplift of the central part of the Shoshone Mountains relative to the adjacent Reese River Valley. The fault zone has not been studied in detail and other insights and estimates that concern Quaternary offsets have not been reported.
Length (km)	28 km.
Average strike	N19°E
Sense of movement	Normal *Comments:* Not specifically reported, however, the apparent down-to-the-southeast offsets shown by faults along the range-front and the east-facing direction of the majority of the fault scarps suggests mostly down-to-the-southeast offsets, which in this extensional regime probably reflects principally normal, dip-slip movement along easterly dipping faults.
Dip Direction	SE; NW *Comments:* Not reported, but probably steep, based on dip measurements of other Quaternary faults in localities nearby and elsewhere in the Basin and Range Province.
Paleoseismology studies	
Geomorphic expression	The central and southern parts of the fault zone are expressed by a series of left-stepping faults along the eastern range-front of the Shoshone Mountains; these faults show down-to-the-southeast stratigraphic offset, place bedrock against piedmont-slope deposits, and have some east- facing scarps along them (Dohrenwend and others, 1992 #283). The northern part of the fault zone is expressed by west-facing scarps and by linear features on Quaternary piedmont-slope deposits of the Reese River Valley (Dohrenwend and others, 1992 #283).
Age of faulted surficial deposits	Dohrenwend and others (1992 #283) assigned an age range of early to late Pleistocene to faulted deposits at most localities along the fault zone, but at one locality they assigned a questionable late Pleistocene age to faulted deposits.
Historic earthquake	

Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* The timing of the most recent prehistoric faulting event is not well constrained. Based on reconnaissance photogeologic mapping, Dohrenwend and others (1992 #283) indicated that the most recent faulting event is no older than early Pleistocene (<1.6 Ma) and may be as young as late Pleistocene (<130 ka) in age.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Not reported; low slip rate selected on the basis of the fault's geomorphic expression.
Date and Compiler(s)	2000 David J. Lidke, U.S. Geological Survey
References	#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.