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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 east of the Mokomoke Mountains (Class A) No. 1221

Last Review Date: 2000-10-24

citation for this record: **Redsteer, M.H., compiler, 2000, Fault number 1221, unnamed fault east of the Mokomoke 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 02:16 PM.**

Synopsis	The fault is defined by a north-south-trending series of down-to-the-east escarpments directly east of the Mokomoke Mountains and 1-2 km west of Cottonwood Creek in White Pine County. Reconnaissance photogeologic mapping is the source of data. Trench investigations and detailed studies of scarp morphology have not been completed.
Name comments	This unnamed structure was mapped by Dohrenwend and others (1992 #2480) east of the Mokomoke Mountains and extending 7 to 8 km from southeast of Prune Springs across Harris Canyon to 1 km northwest of Aspen Springs.
County(s) and State(s)	WHITE PINE COUNTY, NEVADA
Physiographic	

Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Location based on 1:250,000-scale map of Dohrenwend and others (1992 #2480). Mapping based on photogeologic analysis of 1:24,000-scale color aerial photography supplemented with 1:60,000-scale black-and-white aerial photography, transferred to 1:62,500-scale topographic maps and photographically reduced and transferred to 1:250,000-scale topographic maps, and subsequent 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	This fault is atypical of Basin and Range extensional deformation in that it does not lie along a range-front, but instead is located along the margin of an intermontane valley within the White Pine Range. Uplift and faulting, which includes deformation by this unnamed fault, have exposed Paleozoic carbonate and Oligocene volcanic rock in the White Pine Range. Tertiary deformation of bedrock in this mountain range includes several low-angle detachment faults that place younger rock over older rock (Tracy, 1980 #4340).
Length (km)	9 km.
Average strike	N2°E
Sense of movement	Normal
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	The fault trace is expressed topographically by a north-south trending ridge, parallel and on the eastern flank of the Mokomoke Mountain range-front. Dohrenwend and others (1992 #2480) show the faults as juxtaposing bedrock against Quaternary alluvium; no fault scarps in surficial materials have been noticed.
Age of faulted surficial	Paleozoic, Tertiary, and Quaternary sediment.

deposits	
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Dohrenwend and others (1992 #2480) considered the last fault movement to be of Quaternary age.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Low slip-rate category is assigned on the basis of poor geomorphic preservation, lack of mapped fault scarps, and relative inactivity of similar distributed faults in the Basin and Range province.
Date and Compiler(s)	2000 Margaret Hisa Redsteer, U.S. Geological Survey
References	#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. #4340 Tracy, W.C., 1980, Structure and stratigraphy of the central White Pine Range, east-central Nevada: Long Beach, California State University, unpublished M.S. thesis, 66 p.

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