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 fault in Grass Valley Wash (Class A) No. 1264

Last Review Date: 2000-11-24

citation for this record: **Redsteer, M.H., compiler, 2000, Fault number 1264, unnamed fault in Grass Valley Wash, 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	This unnamed fault is located on the northern side of the Red Hills that lie between the Spring Valley to the south, and the Antelope valley to the north, and lies within the Grass Valley, southwest of the Kern Mountains. It consists of northwest-trending down-to-the-north escarpments that extend about 5 km across the south side of Grass Valley, and parallel to the general trend of the Red Hills in this area. The fault juxtaposes bedrock against Quaternary alluvium. Reconnaissance photogeologic mapping is the source of data. Trench investigations and detailed studies of scarp morphology have not been completed.
Name comments	This unnamed fault consists of northwest-trending, down-to-the-north offset on the south side of Grass Valley Wash, east of the Red Hills.

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 map of Dohrenwend and others (1992 #2480). Mapping 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 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	The Red Hills are located between the Antelope Range and Kern Mountains, and divide the Antelope Valley to the north, from the Spring Valley to the south. Bedrock units of folded and faulted Paleozoic carbonate and clastic rocks of the Red Hills are juxtaposed against Quaternary alluvium by this unnamed fault.
Length (km)	5 km.
Average strike	N81°W
Sense of movement	Normal
Dip Direction	N
Paleoseismology studies	
Geomorphic expression	The fault is mapped by Dohrenwend and others (1992 #2480) where resistant Paleozoic bedrock is juxtaposed against Quaternary sediment, producing an abrupt change in topography (an escarpment). The fault location coincides with Grass Valley, which may be a structurally controlled feature
Age of faulted surficial	Quaternary and Paleozoic

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.