

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 of West Buttes (Class A) No. 1725

Last Review Date: 2001-07-18

citation for this record: Anderson, R.E., compiler, 2001, Fault number 1725, unnamed fault of West Buttes, 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 02:26 PM.

Synopsis	This short fault forms the eastern boundary of West Buttes, presumably bounding that block against the basin beneath Butte Valley. It is apparently not a major Quaternary range-front fault. The northern part is marked by west-facing scarps on late Pleistocene surficial deposits or erosion surfaces, whereas the southern part by a fault places Quaternary deposits against bedrock. The east-facing bedrock escarpment of West Buttes is relatively gentle and intricately incised, suggesting a lack of recency. No detailed studies are reported, and neither the recurrence time or slip rate is known.
Name comments	This fault has not been named. As mapped by Dohrenwend and others (1991 #286) it extends south from directly west of West Butte Well No. 1 to about 1.5 km south-southwest of West Butte

	Well No. 2. It bounds the eastern margin of West Buttes.
County(s) and State(s)	ELKO COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. <i>Comments:</i> Fault traces taken from the 1:250,000-scale map of Dohrenwend and others (1991 #286). That map was produced by analysis of 1:58,000-nominal-scale color-infrared photography transferred directly to 1:100,000-scale topographic quadrangle maps enlarged to the scale of the photographs.
Geologic setting	As mapped by Dohrenwend and others (1991 #286), this short fault is morphologically similar to major range-front faults, but is significantly less extensive with lower, shorter, and less continuous scarps. It is a down-to-the-east block-bounding fault that bounds the West Buttes block on the east, and part of the basin beneath Butte Valley on the west.
Length (km)	5 km.
Average strike	N3°W
Sense of movement	Normal <i>Comments:</i> Inferred from location in an extensional tectonic province.
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	Dohrenwend and others (1991 #286) showed the northern part as having west-facing scarps on Quaternary surficial deposits or erosion surfaces and the southern part as being a fault that places Quaternary deposits against bedrock. Barnhard (1985 #428) did not recognize scarps on alluvium, possibly suggesting the fault's weak geomorphic expression. The east-facing bedrock escarpment of West Buttes is relatively gentle and intricately incised, suggesting a lack of recent movement.

Age of faulted surficial deposits	Late Pleistocene. On the basis of photogeologic study, Dohrenwend and others (1991 #286) showed the northern part as having west-facing scarps on late Pleistocene surficial deposits or erosion surfaces.
Historic earthquake	
Most recent prehistoric deformation	late Quaternary (<130 ka) <i>Comments:</i> Based on estimate by Dohrenwend and others (1991 #286) that scarps are formed on late Pleistocene surficial deposits or erosion surfaces.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr <i>Comments:</i> Not reported, however, the late Quaternary characteristics of this fault (overall geomorphic expression, continuity of scarps, age of faulted deposits, etc.) support a low slip rate. Accordingly, the less than 0.2 mm/yr slip-rate category has been assigned.
Date and Compiler(s)	2001 R. Ernest Anderson, U.S. Geological Survey, Emeritus
References	#428 Barnhard, T.P., 1985, Map of fault scarps formed in unconsolidated sediments, Elko 1° x 2° quadrangle, Nevada and Utah: U.S. Geological Survey Miscellaneous Field Studies Map MF-1791, 1 sheet, scale 1:250,000. #286 Dohrenwend, J.C., Schell, B.A., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the Elko 1° by 2° quadrangle, Nevada and Utah: U.S. Geological Survey Miscellaneous Field Studies Map MF-2179, 1 sheet, scale 1:250,000.

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