

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](#).

Black Eagle Hill fault (Class A) No. 1311

Last Review Date: 1999-03-24

citation for this record: Sawyer, T.L., compiler, 1999, Fault number 1311, Black Eagle Hill fault, 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 02:15 PM.

Synopsis

This short continuous fault has a range-front fault bounding west front of Black Eagle Hill from west of Pilot Cone to north end of ridge where it extends northward as an intra basin fault to southern piedmont slope of Barnett Hills, and has a subparallel piedmont fault west of Squaw Peak; fault may be related to fault 1320. The northernmost fault is expressed as a lineament apparently on eolian sand dunes and the range-front fault is expressed by dissected front of Black Eagle Hill, which lacks fault facets. Fault scarps have been reported on this fault, including a prominent 10-km-long scarp mantled by eolian sand deposits. The piedmont fault may be marked by a east-facing scarp. Reconnaissance photogeologic mapping of these faults and regional geologic mapping are the sources of data. Trench investigations and detailed studies of scarp morphology have not been completed.

Name comments	Refers to faults mapped by Bell (1984 #105), Dohrenwend (1982 #2481; 1982 #2870), and Greene and others (1991 #3487) along west side of Black Eagle Hill. dePolo (1998 #2845) referred to it as the Black Eagle Hill fault. Fault ID: Refers to R32 (Black Eagle Hill fault) of dePolo (1998 #2845).
County(s) and State(s)	CHURCHILL COUNTY, NEVADA MINERAL COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. <i>Comments:</i> Fault location primarily based on 1:250,000-scale map of Bell (1984 #105); mapping is from photogeologic analysis of 1:40,000-scale low sun-angle aerial photography, supplemented with 1:12,000-scale aerial photography of selected areas, several low-altitude aerial reconnaissance flights, and field reconnaissance of major structural and stratigraphic relationships. Southernmost fault trace is based on 1:250,000-scale map of Dohrenwend (1982 #2481), which is from 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 short continuous fault has a range-front fault bounding west front of Black Eagle Hill from west of Pilot Cone to north end of ridge where it extends northward as an intra basin fault to southern piedmont slope of Barnett Hills, and has a subparallel piedmont fault west of Squaw Peak (Dohrenwend, 1982 #2481; 1982 #2870; Bell, 1984 #105).
Length (km)	13 km.
Average strike	N2°E
Sense of movement	Normal <i>Comments:</i> Not studied in detail; normal sense of movement is inferred from topography.
Dip Direction	NE; W

Paleoseismology studies	
Geomorphic expression	The northernmost fault is expressed as a lineament apparently on eolian sand dunes and the range-front fault is expressed by dissected front of Black Eagle Hill. The piedmont fault is marked by a prominent 10-km-long, east-facing scarp mantled by eolian sand deposits (Dohrenwend, 1982 #2481; 1982 #2870; Bell, 1984 #105). dePolo (1998 #2845) reported fault scarps on this faults zone at unspecified location(s).
Age of faulted surficial deposits	Quaternary. There is general agreement that faults in this zone displace and juxtapose undifferentiated Quaternary piedmont-slope deposits against bedrock (Slemmons, 1968, unpublished Reno 1? x 2? sheet; Dohrenwend, 1982 #2481; 1982 #2870; Bell, 1984 #105; Greene and others, 1991 #3487).
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) <i>Comments:</i> Although timing of most recent event is not well constrained, a Quaternary time is indicated from the mapping of Bell (1984 #105) and Dohrenwend (1982 #2481; 1982 #2870).
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr <i>Comments:</i> No detailed data exists to determine slip rates for this fault. dePolo (1998 #2845) assigned a reconnaissance vertical slip rate of 0.01 mm/yr for the fault based on the presence of scarps on alluvium and the absence of basal facets. The size of the facets (tens to hundreds of meters, as measured from topographic maps) indicates they are the result of many seismic cycles, and thus the derived slip rate reflects a long-term average. The late Quaternary characteristics of this fault (overall geomorphic expression, continuity of scarps, age of faulted deposits, etc.) suggests a low slip rate. Accordingly, the less than 0.2 mm/yr slip-rate category has been assigned to this fault.
Date and Compiler(s)	1999 Thomas L. Sawyer, Piedmont Geosciences, Inc.
References	#105 Bell, J.W., 1984, Quaternary fault map of Nevada—Reno

sheet: Nevada Bureau of Mines and Geology Map 79, 1 sheet, scale 1:250,000.

#2845 dePolo, C.M., 1998, A reconnaissance technique for estimating the slip rate of normal-slip faults in the Great Basin, and application to faults in Nevada, U.S.A.: Reno, University of Nevada, unpublished Ph.D. dissertation, 199 p.

#2481 Dohrenwend, J.C., 1982, Map showing late Cenozoic faults in the Walker Lake 1° by 2° quadrangle, Nevada-California: U.S. Geological Survey Miscellaneous Field Studies Map MF-1382-D, 1 sheet, scale 1:250,000.

#2870 Dohrenwend, J.C., 1982, Surficial geologic map of the Walker Lake 1° by 2° quadrangle, Nevada-California: U.S. Geological Survey Miscellaneous Field Studies Map MF-1382-C, 1 sheet, scale 1:250,000.

#3487 Greene, R.C., Stewart, J.H., John, D.A., Hardyman, R.F., Silberling, N.J., and Sorensen, M.L., 1991, Geologic map of the Reno 1° by 2° quadrangle, Nevada and California: U.S. Geological Survey Miscellaneous Field Studies Map MF-2154-A, scale 1:250,000.

[Questions or comments?](#)

[Facebook](#) [Twitter](#) [Google](#) [Email](#)

[Hazards](#)

[Design Ground Motions](#)[Seismic Hazard Maps & Site-Specific Data](#)[Faults](#)[Scenarios](#)

[Earthquakes](#)[Hazards](#)[Data](#)[Education](#)[Monitoring](#)[Research](#)

[Home](#)[About Us](#)[Contacts](#)[Legal](#)