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 west of Black Rock Desert (Class A) No. 1493

Last Review Date: 1998-07-19

citation for this record: **Sawyer, T.L., compiler, 1998, Fault number 1493, unnamed faults west of Black Rock Desert, 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 02:50 PM.**

Synopsis	These widely distributed faults appear to form a discontinuous zone of short faults in small groups along the west side of the of the Black Rock Desert and east of the Black Rock Range. Many faults are marked by scarps on the desert floor, including one that bounds a closed depression west of Pinto Mountain. Reconnaissance photogeologic mapping of the fault zone is the source of data. Trench investigations and detailed studies of scarp morphology have not been conducted.
Name comments	Refers to faults mapped by Slemmons (1966, unpublished Vya 1? X 2? sheet) along the west side of the Black Rock Desert south of Elephant Mountain, at and near the west front of Pinto Mountain, and to the northwest of Pinto Mountain on the eastern piedmont of the Black Rock Range south of Battle Creek.

County(s) and State(s)	HUMBOLDT COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Fault locations based on 1:250,000-scale map of Slemmons (1966, unpublished Vya 1? X 2? sheet); mapping from analysis of 1:60,000-scale AMS photography transferred to mylar overlaid onto a 1:250,000-scale topographic map using proportional dividers.
Geologic setting	These distributed faults appear to form a discontinuous zone of short faults in small groupings along west side of the of the Black Rock Desert and east of the Black Rock Range.
Length (km)	34 km.
Average strike	N17°E
Sense of movement	Normal *Comments:* (Slemmons, 1966, unpublished Vya 1? X 2? sheet)
Dip Direction	W; E; NW
Paleoseismology studies	
Geomorphic expression	Many of these short faults are marked by scarps and lineaments on the floor of the western Black Rock Desert, including an approximately 4-km-long west-facing escarpment that bounds a closed depression west of Pinto Mountain and a scarp south of Elephant Mountain that appears to coincide with an alignment of springs (Slemmons, 1966, unpublished Vya 1? X 2? sheet); however, the closed depression also may be a recessional shoreline feature relate to pluvial Lake Lahontan. Dohrenwend and Moring (1991 #281) show no faults in this area.
Age of faulted surficial deposits	Latest Quaternary and Quaternary. Faults on the floor of the western Black Rock Desert offset latest Quaternary and undifferentiated Quaternary basin-fill and piedmont-slope deposits (Slemmons, 1966, unpublished Vya 1? X 2? sheet).

Historic earthquake	
Most recent prehistoric deformation	latest Quaternary (<15 ka) *Comments:* Although timing of most recent event is not well constrained, a latest Quaternary time is suggested by the reconnaissance photogeologic mapping of Slemmons (1966, unpublished Vya 1? X 2? sheet). The timing of several faults in this group are shown only as late Quaternary or Quaternary, depending on the age of deposits they displace.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* A low slip rate is inferred from general knowledge of slip rates estimated for other faults in the region.
Date and Compiler(s)	1998 Thomas L. Sawyer, Piedmont Geosciences, Inc.
References	#281 Dohrenwend, J.C., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the Vya 1° by 2° quadrangle, Nevada, Oregon, and California: U.S. Geological Survey Miscellaneous Field Studies Map MF-2174, 1 sheet, scale 1:250,000.