

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 zone in Pine Grove Hills (Class A) No. 1292

Last Review Date: 1998-07-19

citation for this record: Adams, K., and Sawyer, T.L., compilers, 1998, Fault number 1292, unnamed fault zone in Pine Grove Hills, 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 distributed intermontane fault zone is located in the Pine Grove Hills and extends from the vicinity of Bald Mountain north to Sand Canyon. Most of the faults in this group are generally short and have varying strikes. The faults are primarily expressed as aligned drainages and minor topographic escarpments, but some of them also bound small closed depressions filled with playa deposits. Reconnaissance photogeologic mapping and bedrock mapping of the faults are the sources of data. Trench investigations and detailed studies of scarp morphology have not been completed.
Name comments	Refers to a group of distributed faults in the Pine Grove Hills mapped by Moore (1961 #2879), Slemmons (1966, unpublished Walker Lake 1? X 2? sheet), Dohrenwend (1982 #2481; 1982

	#2870), and Stewart and others (1982 #2873).
County(s) and State(s)	LYON COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	<p>Good Compiled at 1:100,000 scale.</p> <p><i>Comments:</i> Locations primarily based on 1:250,000-scale maps of Dohrenwend (1982 #2481; 1982 #2870) and supplemented by bedrock mapping (1:200,000 scale) of Moore (1961 #2879). Mapping by Dohrenwend (1982 #2481; 1982 #2870) based on 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. One fault east of Wichman Canyon is based on 1:250,000-scale unpublished Quaternary fault map of Slemmons (1966, unpublished Walker Lake 1? X 2? sheet); mapping from analysis of 1:60,000-scale AMS photography transferred to mylar overlay on a 1:250,000-scale topographic map using proportional dividers.</p>
Geologic setting	This distributed intermontane fault zone is located in the Pine Grove Hills and extends from the vicinity of Bald Mountain north to Sand Canyon. Most of the faults in this group are generally short and have strikes ranging from northeast through northwest (Dohrenwend, 1982 #2481; 1982 #2870).
Length (km)	21 km.
Average strike	N14°E
Sense of movement	<p>Normal</p> <p><i>Comments:</i> Not studied in detail; normal sense of movement is from Moore (1961 #2879) and inferred from topography.</p>
Dip Direction	E; W
Paleoseismology studies	
Geomorphic expression	These generally short intermontane faults are primarily expressed as aligned drainages and minor topographic escarpments, but some of them also bound small closed depressions filled with

	Quaternary playa and alluvial deposits and juxtapose some of these same deposits against bedrock (Dohrenwend, 1982 #2870).
Age of faulted surficial deposits	Undifferentiated Pleistocene. Dohrenwend and others (1996 #2846) report that all of the faults included in this group only displace late Tertiary and/or Quaternary volcanic rocks.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) <i>Comments:</i> Timing of most recent event is not well constrained. Quaternary time is based on mapping by Dohrenwend and others (1996 #2846). Younger faulting may be implied by the fault shown to juxtapose upper Quaternary alluvium and Pleistocene erosional surfaces against bedrock (Dohrenwend, 1982 #2870).
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr <i>Comments:</i> A low slip rate is inferred from general knowledge of slip rates estimated for other faults in the region.
Date and Compiler(s)	1998 Kenneth Adams, Piedmont Geosciences, Inc. Thomas L. Sawyer, Piedmont Geosciences, Inc.
References	#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. #2846 Dohrenwend, J.C., Schell, B.A., Menges, C.M., Moring, B.C., and McKittrick, M.A., 1996, Reconnaissance photogeologic map of young (Quaternary and late Tertiary) faults in Nevada, <i>in</i> Singer, D.A., ed., Analysis of Nevada's metal-bearing mineral resources: Nevada Bureau of Mines and Geology Open-File Report 96-2, 1 pl., scale 1:1,000,000.

#2879 Moore, J.G., 1961, Preliminary geologic map of Lyon, Douglas, Ormsby and part of Washoe Counties, Nevada: U.S. Geological Survey Miscellaneous Field Studies Map MF-80, scale 1:200,000.

#2873 Stewart, J.H., Carlson, J.E., and Johannesen, D.C., 1982, Geologic map of the Walker Lake 1° by 2° quadrangle, California and Nevada: U.S. Geological Survey Miscellaneous Field Studies Map MF-1382-A, scale 1:250,000.

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