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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 near Bordwell Spring (Class A) No. 1474

Last Review Date: 1998-07-19

citation for this record: **Sawyer, T.L., compiler, 1998, Fault number 1474, unnamed fault zone near Bordwell Spring, 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 02:05 PM.**

Synopsis	This zone of intra-plateau normal faults bounds the west side of the larger Cottonwood Creek basin from Summit Spring Canyon north to near Hart Mountain. Within the zone, Class A faults are comprised of a northeast-striking fault along and near the northwest side of a group of low hills to the west, and a short fault on the west slope of the Granite Range from North Savvy Creek north to Sheep Spring Canyon. The faults along the west side of Cottonwood Creek basin and northwest front of the low hills juxtapose upper piedmont-slope deposits (Quaternary) against Tertiary volcanic and sedimentary rocks and are locally expressed as short scarps, suggesting young movement. About half of the faults in this zone have little or no topographic expression on Tertiary bedrock and are thus considered as Class C features (not shown on map). 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Name comments	Refers to faults mapped by Slemmons (1966, unpublished Vya 1?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) and Dohrenwend and Moring (1991 #281) from North Savvy Creek, west of Fox Mountain in the Granite Range, northward along west side of Cottonwood Creek basin to near Hart Mountain, and along northwest front of low hills to southwest at Rim Rock Spring.
County(s) and State(s)	WASHOE COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Fault locations are based on 1:250,000-scale map of Dohrenwend and Moring (1991 #281), 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 and then reduced and transferred to 1:250,000-scale topographic maps.
Geologic setting	This distributed zone of intra-plateau normal faults bounds the west side of Cottonwood Creek basin, has a northeast-striking fault along and near the northwest side of a group of low hills to the west, and a short fault on the west slope of Granite Range from North Savvy Creek north to Sheep Spring Canyon. (Dohrenwend and Moring, 1991 #281).
Length (km)	25 km.
Average strike	N13°E
Sense of movement	Normal *Comments:* Shown as normal faults by Slemmons (1966, unpublished Vya 1? X 2? sheet) and Dohrenwend and Moring (1991 #281).
Dip Direction	E; NW
Paleoseismology studies	

Geomorphic expression	Faults along west side of Cottonwood Creek basin and northwest front of the low hills juxtapose upper piedmont-slope deposits (Quaternary) against Tertiary volcanic and sedimentary rocks and are locally expressed as short scarps, suggesting but not proving young movement. Half of the faults are only marked by dissected topographic lineaments on Tertiary bedrock (Dohrenwend and Moring, 1991 #281), and are thus considered as Class C features.
Age of faulted surficial deposits	Quaternary; Tertiary; possibly Late Pleistocene. Quaternary piedmont-slope deposits are offset and faulted against Tertiary bedrock along west side of Cottonwood Creek basin and northwest front of the low hills and late Pleistocene piedmont-slope deposits may be faulted near Clover Creek on west side of the basin as based on reconnaissance photogeologic mapping. Portions of these faults and other faults in the zone that only displace Tertiary volcanic and sedimentary rocks (Dohrenwend and Moring, 1991 #281) are considered as Class C features and are not shown on the map.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Although timing of most recent event is not well constrained, a Quaternary time is suggested based on reconnaissance photogeologic mapping of Slemmons (1966, unpublished Vya 1? X 2? sheet), Dohrenwend and Moring (1991 #281) and Dohrenwend and others (1996 #2846). A late Pleistocene time is suspected for one short fault mapped near Clover Creek by Dohrenwend and Moring (1991 #281).
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 and height of topographic escarpments on Tertiary basalt.
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. #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, *in* 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.