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 fault near Churchill Butte (Class A) No. 1666

Last Review Date: 1999-03-22

citation for this record: **Sawyer, J.E., compiler, 1999, Fault number 1666, unnamed fault near Churchill Butte, 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 distributed zone of short primarily intermontane faults borders west and east margins of Churchill Butte and extends from apex of butte across its southwest flank. Reconnaissance photogeologic mapping of fault zone and regional geologic mapping are the sources of data. Trench investigations and detailed studies of scarp morphology have not been conducted.
Name comments	Refers to faults mapped by Bell (1984 #105) and Greene and others, (1991 #3487) within and bound Churchill Butte west of Lahontan Reservoir.
County(s) and State(s)	LYON 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 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.
Geologic setting	This distributed zone of short primarily intermontane faults borders west and east margins of Churchill Butte and extends from apex of butte across its southwest flank (Bell, 1984 #105).
Length (km)	11 km.
Average strike	N26°E
Sense of movement	Normal *Comments:* Not studied in detail; sense of movement is inferred from topography.
Dip Direction	NW; N; E
Paleoseismology studies	
Geomorphic expression	Faults are expressed by topographic lineaments on Quaternary to Tertiary basalt, some are defined by aligned drainages, hillside benches, and ridge-crest saddles, which suggests young movement (Bell, 1984 #105).
Age of faulted surficial deposits	Quaternary; Tertiary. Faults displace Quaternary to Tertiary basalt in this zone (Bell, 1984 #105; Greene and others, 1991 #3487).
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 mapping by Bell (1984 #105) which is consistent with Dohrenwend and others (1996 #2846).

Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Not studied in detail. A low slip rate is inferred from general knowledge of slip rates estimated for other faults in the region and from low height of topographic lineaments on Tertiary volcanic rocks.
Date and Compiler(s)	1999 Janet E. 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. #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. #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.