

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 southwestern Stillwater Range (Class A) No. 1683

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Synopsis	This short distributed group of predominantly short intermontane faults in southwest part of Stillwater Range extends from south of Diamond Canyon north to about 3 km southeast of Stillwater Point at edge of Carson Sink. Fault has been suggested to be related to the Eastern Carson Sink fault zone [1684] and may be related to the Rainbow Mountain fault zone [1679]. Reconnaissance photogeologic mapping of the faults 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Name comments	Refers to faults mapped by Slemmons (1968, unpublished Reno 1? X 2? sheet), Bell (1984 #105), and Greene and others (1991 #3487) in southwest part of Stillwater Range from north of Fourmile Flat to east of Stillwater Point. dePolo (1998 #2845)

	<p>refers to this fault as part of his Eastern Carson Sink fault zone. We characterize it separately here because of lack of continuity with the fault bounding the eastern edge of Carson Sink and the intermountain location of these faults.</p> <p>Fault ID: Generally refers to fault R28D (Eastern Carson Sink fault zone) of dePolo (1998 #2845).</p>
County(s) and State(s)	CHURCHILL COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	<p>Good Compiled at 1:100,000 scale.</p> <p><i>Comments:</i> Fault locations are based on 1:250,000-scale maps of Bell (1984 #105) and Greene and others (1991 #3487). Mapping by Bell (1984 #105) 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.</p>
Geologic setting	<p>This short distributed group of predominantly short intermontane faults in southwest part of Stillwater Range extends from south of Diamond Canyon north to about 3 km southeast of Stillwater Point at edge of Carson Sink (Bell, 1984 #105; Greene and others, 1991 #3487). Fault has been suggested to be related to the Eastern Carson Sink fault zone [1684] and may be related to the Rainbow Mountain fault zone [1679] (dePolo, 1998 #2845).</p>
Length (km)	17 km.
Average strike	N6°E
Sense of movement	<p>Normal</p> <p><i>Comments:</i> Not studied in detail; sense of movement from Slemmons (1968, unpublished Reno 1? X 2? sheet) and inferred from topography.</p>
Dip Direction	W; E
Paleoseismology	

studies	
Geomorphic expression	Although intermontane faults generally displace only Tertiary volcanic and sedimentary rocks, they are expressed as locally abrupt topographic lineaments defined by aligned ridge-crest saddles, hillside benches and short drainage valleys suggesting young movement; late Quaternary deposits may be juxtaposed against bedrock in southern part of fault zone (Bell, 1984 #105, Slemmons, 1968, unpublished data, Greene and others, 1991 #3487). dePolo (1998 #2845) reports a maximum preferred basal fault facet height of 165 m (146-183 m).
Age of faulted surficial deposits	Quaternary; Tertiary. Faults in the zone are mapped as displacing Tertiary volcanic and sedimentary rocks (Slemmons, 1968, unpublished Reno 1? X 2? sheet; 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 late Quaternary time is suggested based on mapping of Slemmons (1967 #156) and an undifferentiated Quaternary time is suggested by mapping of Bell (1984 #105) and Dohrenwend and others (1996 #2846).
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 0.300 mm/yr to the southern part of his Eastern Carson Sink fault zone based on an empirical relationship between his preferred maximum basal facet height and vertical slip rate. However, it is not known if the part of the fault that he characterizes with this value corresponds to the fault we depict here. The late Quaternary characteristics of this fault (overall geomorphic expression, continuity of scarps, age of faulted deposits, etc.) suggest the slip rate during this period is of a lesser magnitude. 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	<p>#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.</p> <p>#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.</p> <p>#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.</p> <p>#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.</p>

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