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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 southeastern Truckee Range (Class A) No. 1672

Last Review Date: 1999-06-09

citation for this record: **Adams, K., and Sawyer, T.L., compilers, 1999, Fault number 1672, unnamed fault zone southeastern Truckee Range, 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 group of possibly related short discontinuous faults consists of: (1) north-striking intermontane faults at southern end of Truckee Range, (2) northeast-striking range front, piedmont, and intermontane faults bounding southeastern side of Truckee Range from south of Two Tips to Hot Springs Flat, and (3) northeast-striking intra basin and intermontane faults extending from eastern side of Hot Springs Flat northeast to southwestern tip of Trinity Range. A prominent right-step of about three kilometers separates faults along southeastern side of Truckee Range from faults in Hot Springs Flat area, but all faults are included in the same group because of similar orientation and proximity. Reconnaissance photogeologic mapping 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Name comments	Refers to faults mapped by Slemmons (1968, unpublished Reno 1?x2? sheet), Bell (1984 #105), and Greene and others (1991 #3487) extending from southeastern side of Truckee Range, across Hot Springs Flat, to southwestern end of Trinity Range. **Fault ID:** Refers in part to fault zones R22 (Eastern Truckee Range fault zone) and R23 (Brady's Hot Springs fault) of dePolo (1998 #2845).
County(s) and State(s)	WASHOE COUNTY, NEVADA CHURCHILL 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 maps of Bell (1981 #2875; 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 group of possibly related short discontinuous faults consists of: (1) north-striking intermontane faults at southern end of Truckee Range, (2) northeast-striking range front, piedmont, and intermontane faults bounding southeastern side of Truckee Range from south of Two Tips to Hot Springs Flat, and (3) northeast-striking intra basin and intermontane faults extending from eastern side of Hot Springs Flat northeast to southwestern tip of Trinity Range (Bell, 1984 #105; Greene and others, 1991 #3487). A prominent right-step of about 3 km separates faults along southeastern side of Truckee Range from faults in Hot Springs Flat area, but all faults are included in same group because of similar orientation and proximity.
Length (km)	34 km.
Average strike	N20°E
Sense of movement	Normal *Comments:* Not studied in detail; sense of movement from Slemmons (1968, unpublished Reno 1?x2? sheet) and dePolo

	(1998 #2845), inferred from topography, and inferred from sense of motion for other northeast-striking faults in region.
Dip Direction	SE
Paleoseismology studies	
Geomorphic expression	The intermontane faults at south end of Truckee Range are expressed as prominent topographic lineaments on Tertiary volcanic bedrock. Faults along southeastern side of Truckee Range are expressed as southeast-facing scarps, abrupt southeast-facing topographic escarpments, and prominent topographic lineaments on Tertiary volcanic bedrock. Faults in Hot Springs Flat area are expressed by northeast-trending scarps, some of which are facing southeast, and alignment of hot springs and fumaroles (Slemmons, 1968, unpublished Reno 1?x2? sheet, Bell, 1984 #105).
Age of faulted surficial deposits	late Pleistocene; Quaternary; Tertiary. Faults displace deposits of late Pleistocene Lake Lahontan, juxtapose undifferentiated Quaternary alluvium against Tertiary bedrock, and displace Tertiary volcanic and sedimentary rocks (Greene and others, 1991 #3487).
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 based on reconnaissance photogeologic mapping of Bell (1984 #105) and from the studies of Slemmons (1968, unpublished Reno 1? X 2? sheet) and Dohrenwend and others (1996 #2846).
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* No detailed data exists to determine slip rates for this fault. dePolo (1998 #2845) assigned a reconnaissance vertical slip rate of 0.01 mm/yr for the fault based on the presence of scarps on alluvium and the absence of basal facets. The late Quaternary characteristics of these faults (overall geomorphic expression,

	continuity of scarps, age of faulted deposits, etc.) support a low slip rate. Accordingly, the less than 0.2 mm/yr slip-rate category has been assigned to this fault.
Date and Compiler(s)	1999 Kenneth Adams, Piedmont Geosciences, Inc. Thomas L. Sawyer, Piedmont Geosciences, Inc.
References	#2875 Bell, J.W., 1981, Quaternary fault map of the Reno 1° by 2° quadrangle, Nevada-California: U.S. Geological Survey Open-File Report 81-982, 62 p., http://pubs.er.usgs.gov/publication/ofr81982. #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. #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. #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.