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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 faults northeast of Virginia City (Class A) No. 1662

Last Review Date: 1999-03-22

citation for this record: **Sawyer, J.E., compiler, 1999, Fault number 1662, unnamed faults northeast of Virginia City, 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 short distributed zone has intra-plateau faults within Long Valley extends from southeast of Geiger Summit in the Virginia Range northeast to south and west of Chalk Hills, and has intermontane faults in the Flowery Range north of Rocky Peak. These faults locally juxtapose Quaternary deposits against Tertiary volcanic rocks and are expressed by low topographic lineaments; one of the intra-plateau faults bounds northwest side of a large closed depression. Reconnaissance photogeologic mapping of the 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) between the Virginia Range and the Flowery

	Range in Long Valley from east and northeast of Geiger Summit to south and west of Chalk Hills; included northern part of the Comstock fault of dePolo (1998 #2845). **Fault ID:** Refers to the northern part of fault number R13 (Comstock fault) of dePolo (1998 #2845).
County(s) and State(s)	STOREY 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. Selected faults are based on 1:250,000-scale map of Greene and others (1991 #3487).
Geologic setting	This short distributed zone has intra-plateau faults within Long Valley extending from southeast of Geiger Summit in the Virginia Range northeast to south and west of Chalk Hills, and has intermontane faults in the Flowery Range north of Rocky Peak (Bell, 1984 #105; Greene and others, 1991 #3487).
Length (km)	8 km.
Average strike	N36°E
Sense of movement	Normal *Comments:* Not studied in detail; sense of movement is inferred from topography.
Dip Direction	NW; SE
Paleoseismology studies	
Geomorphic expression	These faults locally juxtapose Quaternary deposits against Tertiary volcanic rocks and are expressed by low topographic

	lineaments. One of the intra-plateau faults bounds northwest side of a large closed depression (Bell, 1984 #105; Greene and others, 1991 #3487).
Age of faulted surficial deposits	Quaternary; Tertiary. Bell (1984 #105) mapped faults that displace undifferentiated Quaternary deposits and Greene and others (1991 #3487) mapped undifferentiated Quaternary deposits juxtaposed against Tertiary volcanic rocks; this is consistent with mapping of Dohrenwend and others (1996 #2846).
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) and Greene and others, (1991 #3487), which is consistent with map of 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. A low slip rate is inferred from general knowledge of slip rates estimated for other faults in the region and from the low height of topographic lineaments on Tertiary volcanic rocks. dePolo (1998 #2845) assigned a reconnaissance vertical slip rate of 0.248 mm/yr based on an empirical relationship between his preferred maximum basal facet height and vertical slip rate to the Comstock fault. However, it is not clear whether this slip-rate assignment should be applied to the part of the fault we show 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 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.

	#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.