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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 southeast of Roberts Mountains (Class A) No. 1184

Last Review Date: 2000-09-13

citation for this record: **Lidke, D.J., compiler, 2000, Fault number 1184, unnamed faults southeast of Roberts Mountains, 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 02:16 PM.**

Synopsis	This discontinuous and vaguely defined group of faults show strikes that range from northwest to northeast, but the most common strikes are northwest. The zone is characterized by short faults that place bedrock against Quaternary piedmont-slope deposits, and by short, west- to southwest-facing scarps on piedmont slope deposits. There is evidence along the zone for at least one faulting event that is no older than early Pleistocene in age. These faults have not been studied in detail and very little is known about their nature, character and movement history. The principle sources of data consist of photogeologic mapping supplemented by some field verification.
Name comments	Refers to a discontinuous, northwest-striking group of faults southeast of the Roberts Mountains on the northeast margin of the

	Kobeh Valley. Schell (1981 #2844) and Dohrenwend and others (1992 #283) mapped individual faults of the group, however, neither the group of faults nor the individual faults of the group are known to have been previously named. These faults extends discontinuously southeast from about 7 km west of Mount Hope to about 5 km northwest of Mount Whistler, on the southeastern flank of the Roberts Mountains.
County(s) and State(s)	EUREKA COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Location based on 1:250,000-scale maps of Schell (1981 #2844) and Dohrenwend and others (1992 #283). Mapping by Schell (1981 #2843; 1981 #2844) included field verification, but was based primarily on photogeologic analysis of 1:24,000-scale, color, aerial photography that was supplemented by analysis of some 1:60,000-scale, black-and-white, aerial photography: faults identified on the aerial photographs were transferred by inspection to 1:62,500-scale topographic maps that were photographically reduced to 1:250,000-scale for final compilation of the faults on 1:250,000-scale topographic maps. Mapping by Dohrenwend and others (1992 #283) was based on photogeologic analysis of 1:58,000-nominal-scale, color-infrared photography transferred directly to 1:100,000-scale topographic maps enlarged to the scale of the photographs; these maps were then reduced and compiled at 1:250,000-scale.
Geologic setting	The group of discontinuous, mostly northwest-striking faults appear to define a vague northwest-striking fault that extends southeastward from the southeastern flank of the Roberts Mountains, along the western flank of low northwest-trending hills that connect the Roberts Mountains to Whistler Mountain. The faults of this group juxtapose Tertiary and Paleozoic bedrock exposed in low hills against Quaternary piedmont-slope deposits of the adjacent Kobeh Valley; these faults also form west- to southwest-facing scarps on Quaternary piedmont-slope deposits (Schell, 1981 #2844; Dohrenwend and others, 1992 #283). Stratigraphic relations across individual faults, as well as the southwest aspect of the scarps, suggests down-to-the-southwest

	offsets along the fault zone that probably reflect some continued Quaternary uplift of the hills relative to the adjacent Kobeh Valley. The faults of this zone have not been studied in detail and there are no estimates of offset along them. Northwest-striking Quaternary faults are uncommon in the Millett 1?x2? quadrangle. This zone of northwest-striking faults and the nearby northwest-striking Western Roberts Mountains fault [fault 1183], appear to coincide with the southeastern end of the Northern Nevada Rift, which is characterized by a northwest-striking lineament that may represent an ancient rift system (Zoback and Thompson, 1978 #3059; Schell, 1981 #2843).
Length (km)	19 km.
Average strike	N3°W
Sense of movement	Normal *Comments:* Not specifically reported, however, the predominantly down-to-southwest faults and southwest-facing direction of the scarps suggest mostly down-to-the-southwest offsets, which in this extensional regime probably reflects principally normal, dip-slip movement along southwesterly dipping faults.
Dip Direction	SW *Comments:* Not reported, but probably steep, based on dip measurements of other Quaternary faults in localities nearby and elsewhere in the Basin and Range Province.
Paleoseismology studies	
Geomorphic expression	Based on mapping by Schell (1981 #2844) and Dohrenwend and others (1992 #283), faults in this group juxtapose bedrock against Quaternary piedmont-slope deposits and are expressed by scarps developed on piedmont-slope deposits. These faults are mostly northwest-trending and the scarps mostly face southwest. These faults and scarps are concentrated in two clusters that are separated by a gap of about 10 km; between which no faults and fault-related features are mapped (Dohrenwend and others, 1992 #283). These two clusters of faults may represent a continuous northwest-striking fault zone at depth.
Age of faulted	Schell (1981 #2844) and Dohrenwend and others (1992 #283)

surficial deposits	both show that Quaternary deposits are faulted; however, neither author constrains the age of these deposits any more tightly than as broadly Quaternary.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* The timing of the most recent prehistoric faulting event is not well constrained. Mapping studies by Schell (1981 #2844) and Dohrenwend and others (1992 #283) are in agreement, but indicate only that one or more Quaternary faulting events has occurred along faults included in this zone of faults.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Not reported; low slip rate selected on the basis of the faults geomorphic expression.
Date and Compiler(s)	2000 David J. Lidke, U.S. Geological Survey
References	#283 Dohrenwend, J.C., Schell, B.A., and Moring, B.C., 1992, Reconnaissance photogeologic map of young faults in the Millett 1° by 2° quadrangle, Nevada: U.S. Geological Survey Miscellaneous Field Studies Map MF-2176, 1 sheet, scale 1:250,000. #2843 Schell, B.A., 1981, Faults and lineaments in the MX Sitting Region, Nevada and Utah, Volume I: Technical report to U.S. Department of [Defense] the Air Force, Norton Air Force Base, California, under Contract FO4704-80-C-0006, November 6, 1981, 77 p. #2844 Schell, B.A., 1981, Faults and lineaments in the MX Siting Region, Nevada and Utah, Volume II: Technical report to U.S. Department of [Defense] the Air Force, Norton Air Force Base, California, under Contract FO4704-80-C-0006, November 6, 1981, 29 p., 11 pls., scale 1:250,000. #3059 Zoback, M.L., and Thompson, G.A., 1978, Basin and Range rifting in northern Nevada—Clues from a mid-Miocene rift and its subsequent offsets: Geology, v. 6, no. 2, p. 111-116.

Questions or comments?

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