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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 of Garden Valley (Class A) No. 1182

Last Review Date: 2000-09-11

citation for this record: **Lidke, D.J., compiler, 2000, Fault number 1182, unnamed faults of Garden Valley, 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 02:17 PM.**

Synopsis	The north-striking faults in the Garden Valley area juxtapose bedrock of the Roberts Mountains and Sulphur Springs Range against Quaternary piedmont-slope deposits along the eastern and western flanks of the north-trending, graben-like Garden Valley. These faults have not been studied in detail and little is known about the nature, character, and movement history of these faults. Reconnaissance photogeologic mapping provides the only known source of data for these faults.
Name comments	Refers to north-striking faults mapped Dohrenwend and others (1992 #283) that are discontinuous along both the eastern and western sides of Garden Valley. Along the western side of the valley, the faults extend from east of Rabbit Spring to south of Brazier Creek. Along the eastern side of the valley, a short single

	fault extends from nearly 40?00' latitude southward to about 3 km northwest of the Prince of Whales Mine.
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 is from 1:250,000-scale map of Dohrenwend and others (1992 #283), which shows mapping 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	These north-striking, faults appear to down-drop Quaternary deposits of the Garden Valley against Paleozoic and Tertiary bedrock of the Roberts Mountains and Sulphur Springs Rage, which border the western and eastern flank of the valley, respectively (Dohrenwend and others, 1992 #283). Photogeologic mapping by Dohrenwend and others (1992 #283) indicates evidence for at Quaternary movement along these faults, but no estimates of offset amounts for these faults have been reported. The apparent down-to-the-valley offsets of piedmont-slope deposits, along both sides of the Garden Valley (Dohrenwend and others, 1992 #283), may suggest that these faults are part of a larger graben structure that formed the valley. Similarly, Quaternary movement along these faults probably reflects some continued Quaternary down-dropping of the Garden Valley relative to the adjacent mountain ranges.
Length (km)	12 km.
Average strike	N4°W
Sense of movement	Normal *Comments:* Not specifically reported, however, down-to-the-valley offsets that appear to characterize these faults, probably reflect principally normal, dip-slip movement along both east and west dipping faults that may define a graben.

Dip Direction	E; W *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	These faults are expressed by juxtaposition of bedrock against Quaternary piedmont-slope deposits of the intervening Garden Valley as shown by reconnaissance photogeologic mapping by Dohrenwend and others (1992 #283). Dohrenwend and others (1992 #283) do not show any scarps near these faults; however, they noted that low, short, and discontinuous scarps may be present locally along faults of this type. According to Dohrenwend and others (1992 #283), these faults are similar to but apparently are not major range-front faults.
Age of faulted surficial deposits	Dohrenwend and others (1992 #283) did not assign specific ages to faulted deposits along these faults, however, their map indicates that Quaternary deposits are juxtaposed against older bedrock along these faults.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* The timing of the most recent prehistoric faulting event is poorly constrained. Reconnaissance photogeologic mapping by Dohrenwend and others (1992 #283) indicates only that one or more Quaternary faulting events has occurred along these 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.