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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 between Kumiva and Sage Hen Valleys (Class A) No. 1615

Last Review Date: 1999-03-09

citation for this record: **Sawyer, T.L., and Adams, K., compilers, 1999, Fault number 1615, unnamed fault zone between Kumiva and Sage Hen Valleys, 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 left-stepping zone is comprised of range-front faults, subparallel pediment faults and an intermontane fault. The range-front faults bound both sides of a bedrock ridge (horst) on the northeast side of the Nightingale Mountains between the southern end of Kumiva Valley and the northern end of Sage Hen Valley. The subparallel pediment faults extend through the southern end of Kumiva Valley and the northern end of Sage Hen Valley. A single intermontane fault is included; it is east of Lower Stonehouse Spring. The entire zone may be related to the northernmost strand of fault zone 1614, which would extend the echelon pattern northwestward to near Hayhawk Well. The range-front faults juxtapose Quaternary sediment and basalt against bedrock and are expressed by prominent escarpments. Piedmont

	faults are marked by short northwest- and east-facing scarps on Quaternary piedmont-slope deposits in northern Sage Hen Valley and in southernmost Kumiva Valley. 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Name comments	Refers to faults mapped by Slemmons (1974, unpublished Lovelock 1? X 2? sheet), Johnson (1977 #2569), and Dohrenwend and others (1991 #285) on the northeast side of the Nightingale Mountains to the west of Granite Springs Ridge.
County(s) and State(s)	PERSHING COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Fault locations are primarily based on 1:250,000-scale map of Dohrenwend and others (1991 #285), which was produced by analysis of 1:58,000-nominal-scale color-infrared photography transferred directly to 1:100,000-scale topographic quadrangle maps enlarged to scale of the photographs. Additional fault locations are from 1:250,000-scale bedrock map of Johnson (1977 #2569). Fault locations were checked against 1:250,000-scale photogeologic map of Slemmons (1974, unpublished Lovelock 1? X 2? sheet).
Geologic setting	This short left-stepping zone is comprised of range-front faults, subparallel pediment faults and an intermontane fault. The range-front faults bound both sides of a bedrock ridge (horst) on the northeast side of the Nightingale Mountains between the southern end of Kumiva Valley and the northern end of Sage Hen Valley. The subparallel pediment faults extend through the southern end of Kumiva Valley and the northern end of Sage Hen Valley. A single intermontane fault is included; it is east of Lower Stonehouse Spring (Johnson, 1977 #2569; Dohrenwend and others, 1991 #285). The entire zone may be related to the northernmost strand of fault zone 1614, which would extend the echelon pattern northwestward to near Hayhawk Well.

Length (km)	17 km.
Average strike	N27°E
Sense of movement	Normal *Comments:* Shown as normal faults (Johnson, 1977 #2569; Dohrenwend and others, 1991 #285).
Dip Direction	NW; SE
Paleoseismology studies	
Geomorphic expression	The range-front faults juxtapose Quaternary sediment and basalt against bedrock and form prominent escarpments. The piedmont faults are marked by short northwest- and east-facing scarps on Quaternary piedmont-slope deposits in northern Sage Hen Valley and in southernmost Kumiva Valley (Johnson, 1977 #2569; Dohrenwend and others, 1991 #285).
Age of faulted surficial deposits	Quaternary deposits possibly as young as late Pleistocene (Dohrenwend and others, 1991 #285) are juxtaposed against Tertiary sedimentary rocks and Quaternary-Tertiary basalt (Johnson, 1977 #2569).
Historic earthquake	
Most recent prehistoric deformation	late Quaternary (<130 ka) *Comments:* Although timing of most recent event is not well constrained, a late Quaternary time is suspected based on reconnaissance photogeologic mapping of Dohrenwend and others (1991 #285).
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* A low slip rate is inferred from a general knowledge of slip rates from other faults in the region.
Date and Compiler(s)	1999 Thomas L. Sawyer, Piedmont Geosciences, Inc. Kenneth Adams, Piedmont Geosciences, Inc.

References	#285 Dohrenwend, J.C., McKittrick, M.A., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the Lovelock 1° by 2° quadrangle, Nevada and California: U.S. Geological Survey Miscellaneous Field Studies Map MF-2178, 1 sheet, scale 1:250,000. #2569 Johnson, M.G., 1977, Geology and mineral deposits of Pershing County, Nevada: Nevada Bureau of Mines and Geology Bulletin 89, 115 p., scale 1:250,000.