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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.

Silver Peak Range fault (Class A) No. 1108

Last Review Date: 1999-02-16

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Synopsis	The Silver Peak Range fault, as restricted herein, is a short northeast-striking structure within the broad Silver Peak Range bedrock block. Its structural significance is unknown, although it may be an intrablock extensional fault. Evidence for Quaternary displacement is apparently restricted to two short (< 1 km) traces in Quaternary deposits. Photogeologic mapping is the main source of data for this fault. Recurrence intervals and slip rate are unknown.
Name comments	Name adapted from Piety (1995 #915) who applied it to widespread faults in the interior of the Silver Peak Range. Herein the name is restricted to a short (about 8-km-long) northeast-striking fault for which there is sparse evidence for Quaternary displacement. Excluded are (1) an unaligned north-striking fault in Tertiary deposits and (2) several short (< 1.2 km), scattered, variously oriented faults weakly expressed in Quaternary deposits

	in the area southwest of Clayton Valley (Reheis and Noller, 1991 #1195). The fault is mapped on a 1:100,000-scale photogeologic map (Reheis and Noller, 1991 #1195) but not on a 1:250,000-scale photogeologic map (Dohrenwend and others, 1992 #289), and it is shown on a compilation of Quaternary faults (Piety, 1995 #915). The fault is located within the Silver Peak Range and it extends from about 2 km southwest of the Mohawk Mine, northeastward along the west flank of a ridge, to about 4 km west of Red Mountain. **Fault ID:** Referred to as SIL by Piety (1995 #915).
County(s) and State(s)	ESMERALDA COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Location is from Reheis and Noller (1991 #1195) who compiled the fault on a 1:100,000-scale topographic map from photogeologic study of aerial photos at scales ranging from 1:24,000 to 1:80,000. The fault is not shown on a 1:250,000-scale photogeologic map by Dohrenwend and others (1992 #289).
Geologic setting	The Silver Peak Range fault is located in the interior of the Silver Peak Range, a broad upland area between Fish Lake Valley on the west and Clayton Valley on the east. The Silver Peak Range is underlain mostly by Tertiary rocks (Albers and Stewart, 1972 #3863). The 1:250,000-scale geologic map of Esmeralda County (Albers and Stewart, 1972 #3863) shows some north- and northeast-striking faults in the Tertiary bedrock in the central part of the range, but their traces do not match traces mapped photogeologically (Reheis and Noller, 1991 #1195). The Silver Peak Range fault, as restricted herein, is down to the west-northwest and it may be an intrablock extensional fault.
Length (km)	7 km.
Average strike	N25°E
Sense of movement	Normal *Comments:* If the northeast strike of the fault is approximately

	normal to the extension direction in this part of the Basin and Range province, the displacement can be expected to be mainly normal (Reheis and Noller, 1991 #1195).
Dip Direction	NW *Comments:* Unknown, inferred to be northwest on the basis of photogeologic interpretation and limited field data pertaining to the northeast-striking faults in the area, Reheis and Noller (1989 #1610) suggested these faults dip steeply (70? to 90?). Sparse, fault scarps are shown by Reheis and Noller as facing northwest, possibly suggesting that the fault dips in that direction.
Paleoseismology studies	
Geomorphic expression	Most of the fault is expressed as a topographic lineament bounding a bedrock block with short (< 1 km) traces weakly expressed as lineaments or scarps in Quaternary deposits (Reheis and Noller, 1991 #1195).
Age of faulted surficial deposits	Quaternary. The fault has two short (< 1 km) parts that are weakly expressed in undivided Quaternary deposits and the remainder is expressed as a topographic lineament along a linear bedrock ridge (Reheis and Noller, 1991 #1195).
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Reheis and Noller (1991 #1195) show two short scarps on undivided Quaternary deposits or surfaces.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Evidence for a Quaternary displacement history is weak, and no data are available on scarp height or on the age of faulted Quaternary deposits and surfaces. Low slip rate selected on the basis of the faults geomorphic expression.
Date and Compiler(s)	1999 R. Ernest Anderson, U.S. Geological Survey, Emeritus

References	#3863 Albers, J.P., and Stewart, J.H., 1972, Geology and mineral deposits of Esmeralda County, Nevada: Nevada Bureau of Mines and Geology Bulletin 78, 88 p. #289 Dohrenwend, J.C., Schell, B.A., McKittrick, M.A., and Moring, B.C., 1992, Reconnaissance photogeologic map of young faults in the Goldfield 1° by 2° quadrangle, Nevada and California: U.S. Geological Survey Miscellaneous Field Studies Map MF-2183, 1 sheet, scale 1:250,000. #915 Piety, L.A., 1995, Compilation of known and suspected Quaternary faults within 100 km of Yucca Mountain, Nevada and California: U.S. Geological Survey Open-File Report 94-112, 404 p., 2 pls., scale 1:250,000. #1610 Reheis, M.C., and Noller, J.S., 1989, New perspectives on Quaternary faulting in the southern Walker Lane, Nevada and California, *in* Ellis, M.A., ed., Late Cenozoic evolution of the southern Great Basin: Nevada Bureau of Mines and Geology Open-File Report 89-1, p. 57-61. #1195 Reheis, M.C., and Noller, J.S., 1991, Aerial photographic interpretation of lineaments and faults in late Cenozoic deposits in the eastern part of the Benton Range 1:100,000 quadrangle and the Goldfield, Last Chance Range, Beatty, and Death Valley Junction 1:100,000 quadrangles, Nevada and California: U.S. Geological Survey Open-File Report 90-41, 9 p., 4 sheets, scale 1:100,000.