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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.

Wild Rose Spring fault (Class A) No. 1099

Last Review Date: 1999-01-13

citation for this record: **Anderson, R.E., compiler, 1999, Fault number 1099, Wild Rose Spring fault, 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 02:19 PM.**

Synopsis	Wild Rose Spring fault is a new name applied to an east-striking fault between the Sylvania Mountains and Lida Valley north of the northwest end of Death Valley. Most of the fault is expressed as lineaments bounding highlands, but a central trace <3 km long and two short strands at its east end are moderately expressed as scarps and lineaments on Quaternary deposits. Photogeologic mapping is the main source of data for the fault. No information is available on style of faulting, displacement, slip rate, or recurrence interval.
Name comments	Name given here to an east-striking fault that was referred to as the Sylvania Mountains fault by Piety (1995 #915). The fault is located east of the Sylvania Mountains, between the Sylvania Mountains on the west and Lida Valley on the east; its trace passes near Wild Rose Spring, thus the name. The fault was mapped by Reheis and Noller (1991 #1195) and is shown on a

	compilation of Quaternary faults by Piety (1995 #915). **Fault ID:** Referred to as SYL 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.
Geologic setting	The Wild Rose Spring fault is located in the Goldfield section of the Walker Lane belt of Stewart (1988 #1654), an area characterized by a general lack of major through-going northwest-striking strike-slip faults and a scarcity of major Basin and Range faults. The fault strikes east-west, does not follow a conspicuous bedrock escarpment, and is transverse to local ridge and valley topography that trends mostly northwest. It is thus not a range-bounding structure. It lies along the west projection of the northern of the two Slate Ridge faults [1097], from which it is separated by about 14 km. It has a slightly more easterly strike than the average trend of numerous bedrock lineaments mapped in the area between the western Sylvania Mountains and Tule Canyon (Reheis and Noller, 1991 #1195). Its relation to those lineaments or other structures in the area is unknown.
Length (km)	13 km.
Average strike	N89°W
Sense of movement	Normal *Comments:* Reheis and Noller (1991 #1195) show scarps along the central and eastern parts of the fault as facing north, possibly suggesting a down-to-the-north normal fault.
Dip Direction	N *Comments:* Reheis and Noller (1991 #1195) show scarps along

	the central and eastern parts of the fault as facing north, possibly suggesting a dip to the north.
Paleoseismology studies	
Geomorphic expression	On the basis of photogeologic study, most of the fault is portrayed by Reheis and Noller (1991 #1195) as lineaments bounding highlands, but a central trace <3 km long and two short separate traces at its east end (but not aligned along the main fault) are shown as moderately expressed lineaments or scarps on Quaternary deposits. The fault is not shown on a photogeologic map of Quaternary faults at 1:250,000 scale (Dohrenwend and others, 1992 #289).
Age of faulted surficial deposits	Based on photogeologic study by Reheis and Noller (1991 #1195), lineaments and scarps are present on undivided Quaternary deposits.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Based on photogeologic study, Reheis and Noller (1991 #1195) show evidence for Quaternary activity along the fault. Detailed mapping and study of Quaternary deposits and fault-related features, however, have not been done in this area.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* No stratigraphic-offset or scarp-height data are reported. The late Quaternary characteristics of this fault (overall geomorphic expression, continuity of scarps, age of faulted deposits, etc.) suggest a low slip rate. Accordingly, the less than 0.2 mm/yr slip-rate category has been assigned to this fault.
Date and Compiler(s)	1999 R. Ernest Anderson, U.S. Geological Survey, Emeritus
References	#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. #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. #1654 Stewart, J.H., 1988, Tectonics of the Walker Lane belt, western Great Basin—Mesozoic and Cenozoic deformation in a zone of shear, *in* Ernst, W.G., ed., Metamorphism and crustal evolution of the western United States, Ruby Volume VII: Englewood Cliffs, New Jersey, Prentice Hall, p. 683-713.