

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](#).

Indian Springs Valley fault (Class A) No. 1054

Last Review Date: 1998-02-04

citation for this record: Anderson, R.E., compiler, 1998, Fault number 1054, Indian Springs Valley 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	These faults are north-trending mostly along the eastern margin of the north-trending northern Spotted Range where they apparently represent east-side-down displacement. Less than 15 percent of the fault traces are on Quaternary deposits, and most of that is weakly expressed as lineaments or scarps; the remainder is moderately expressed as front lineaments, faults in Tertiary deposits, or as moderately to well-defined lineaments or scarps on Tertiary deposits. Quaternary history not well established or well known. In fact, the fault is not shown in a recent unpublished geologic map of the 1:100,000-scale Indian Springs quadrangle by P.L. Guth and J.C. Yount, raising doubt about its existence and Quaternary history.
Name comments	Name applied by Piety (1995 #915) to discontinuous north-striking faults located between the southern Fallout Hills and northern Spotted Range on the west and Indian Springs Valley on

	<p>the east.</p> <p>Fault ID: Equivalent to fault ISV of Piety (1995 #915).</p>
County(s) and State(s)	<p>CLARK COUNTY, NEVADA LINCOLN COUNTY, NEVADA</p>
Physiographic province(s)	<p>BASIN AND RANGE</p>
Reliability of location	<p>Good Compiled at 1:100,000 scale.</p> <p><i>Comments:</i> Trace compiled from Reheis (1992 #1604) who mapped at 1:100,000 from aerial photographs at 1:60,000 and 1:80,000 scales.</p>
Geologic setting	<p>Fault parallels the north-trending north part of the Spotted Range and faults within that range (Reheis, 1992 #1604; Tschanz and Pampeyan, 1970 #1682; Longwell and others, 1965 #4694) as well as faults in the Fallout Hills (Reheis, 1992 #1604). Indian Springs Valley fault not shown on county maps (Ekren, 1977 #1036; Tschanz and Pampeyan, 1970 #1682; Longwell and others, 1965 #4694). Also, the fault is not shown in a recent unpublished geologic map of the 1:100,000-scale Indian Springs quadrangle by P. Guth and J. Yount, raising doubt about its existence and Quaternary history. Parts of the fault are shown by Reheis (1992 #1604) as lineaments along a linear range front, and some parts are shown by Dohrenwend and others (1991 #288) to have morphological characteristics similar to those of major range-front faults (e.g., a general absence of pediments, abrupt piedmont-hillslope transitions, steep bedrock slopes, faceted spurs, wineglass valleys, and subparallel systems of high-gradient, narrow, steep-sided canyons orthogonal to range front), except that "associated fault systems are significantly less extensive and fault scarps are substantially lower, shorter, and less continuous.</p>
Length (km)	<p>27 km.</p>
Average strike	<p>N1°E</p>
Sense of movement	<p>Normal</p> <p><i>Comments:</i> Shown as an east-side-down normal fault (Reheis, 1992 #1604).</p>

Dip Direction	E
Paleoseismology studies	
Geomorphic expression	About 85 percent of the fault traces are characterized by Reheis (1992 #1604) as either range-front lineaments, faults in Tertiary deposits, or as moderately- to well-defined lineaments or scarps on Tertiary deposits. The remaining traces are short (<1 km long) discontinuous features mostly weakly expressed on Quaternary deposits, although three short (<0.5 km long) traces are characterized as moderately well expressed on Quaternary deposits. These traces are the only clear evidence of Quaternary movement.
Age of faulted surficial deposits	Quaternary
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) <i>Comments:</i> This age is based on photogeologic interpretation (Reheis, 1992 #1604). The fault is not shown in a recent unpublished geologic map of the 1:100,000-scale Indian Springs quadrangle by P.L. Guth and J.C. Yount. That map shows extensive areas along the fault underlain by late Pleistocene and Holocene deposits that are not cut by any fault, raising doubt about a Quaternary history for this fault.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr <i>Comments:</i> No data available on offset amounts or height or shape of scarps to guide slip-rate estimate. Low slip-rate category is assigned on the basis of poor geomorphic preservation, lack of mapped fault scarps, and relative inactivity of similar distributed faults in the Basin and Range province.
Date and Compiler(s)	1998 R. Ernest Anderson, U.S. Geological Survey, Emeritus
References	#288 Dohrenwend, J.C., Menges, C.M., Schell, B.A., and Moring,

B.C., 1991, Reconnaissance photogeologic map of young faults in the Las Vegas 1° by 2° quadrangle, Nevada, California, and Arizona: U.S. Geological Survey Miscellaneous Field Studies Map MF-2182, 1 sheet, scale 1:250,000.

#1036 Ekren, E.B., Orkild, P.P., Sargent, K.A., and Dixon, G.L., 1977, Geologic map of Tertiary rocks, Lincoln County, Nevada: U.S. Geological Survey Miscellaneous Investigations Map I-1041, 1 sheet, scale 1:250,000.

#4694 Longwell, C.R., Pampeyan, E.H., Bowyer, B., and Roberts, R.J., 1965, Geology and mineral deposits of Clark County, Nevada: Nevada Bureau of Mines and Geology Bulletin 62, 218 p., 16 pls.

#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.

#1604 Reheis, M.C., 1992, Aerial photographic interpretation of lineaments and faults in late Cenozoic deposits in the Cactus Flat and Pahute Mesa 1:100,000 quadrangles and the western parts of the Timpahute Range, Pahrnagat Range, Indian Springs, and Las Vegas 1:100,000 quadrangles, Nevada: U.S. Geological Survey Open-File Report 92-193, 14 p., 3 pls., scale 1:100,000.

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