

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 east of Cave Valley (Class A) No. 1407

Last Review Date: 1998-06-29

citation for this record: Sawyer, T.L., compiler, 1998, Fault number 1407, unnamed fault east of Cave 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 02:05 PM.

Synopsis	This short down-to-the-west normal fault bounds a short reach of west front of the southern Schell Creek Range. Reconnaissance photogeologic mapping of these faults is the source of data. Trench investigations and studies of scarp morphology have not been completed.
Name comments	Refers to a discontinuous fault along east side of Cave Valley mapped by Dohrenwend and others (1991 #287). Fault may be related to the late Cenozoic Cave Valley fault as proposed by Kellogg (1960 #2860) based on about 3 km of stratigraphic offset (Schell, 1981 #2857).
County(s) and State(s)	LINCOLN COUNTY, NEVADA
Physiographic	

Topographic province(s)	BASIN AND RANGE
Reliability of location	<p>Good Compiled at 1:100,000 scale.</p> <p><i>Comments:</i> Location based on 1:250,000-scale maps of Dohrenwend and others (1991 #287); mapping by photogeologic 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.</p>
Geologic setting	This short down-to-the-west normal fault bounds a short reach of west front of the southern Schell Creek Range.
Length (km)	7 km.
Average strike	N7°E
Sense of movement	<p>Normal</p> <p><i>Comments:</i> Not studied in detail; sense of movement inferred from topography.</p>
Dip Direction	W
Paleoseismology studies	
Geomorphic expression	The fault is marked by fault scarps juxtaposing Quaternary alluvium against bedrock (Dohrenwend and others, 1991 #287).
Age of faulted surficial deposits	Late-middle Pleistocene alluvium (compiler's assertion). Schell (1981 #2859) mapped intermediate-aged alluvial deposits along the range front, where Dohrenwend and others (1991 #287) mapped the contact between bedrock and alluvium as fault scarps.
Historic earthquake	
Most recent prehistoric deformation	<p>middle and late Quaternary (<750 ka)</p> <p><i>Comments:</i> Although timing of the most recent event is not well constrained, a middle to late Quaternary time is suggested based on geologic mapping of Schell (1981 #2859) and fault mapping of Dohrenwend (1991 #287).</p>

Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr <i>Comments: A low slip rate is inferred from general knowledge of slip rates estimated for other faults in the region.</i>
Date and Compiler(s)	1998 Thomas L. Sawyer, Piedmont Geosciences, Inc.
References	<p>#287 Dohrenwend, J.C., Schell, B.A., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the Lund 1° by 2° quadrangle, Nevada and Utah: U.S. Geological Survey Miscellaneous Field Studies Map MF-2180, 1 sheet, scale 1:250,000.</p> <p>#2860 Kellogg, H.E., 1960, Geology of the southern Egan Range, Nevada, <i>in</i> Boettcher, J.W., and Sloan, W.W., Jr., eds., Geology of east-central Nevada: Intermountain Association of Petroleum Geologists, 11th Annual Field Conference, Guidebook, p. 189-197.</p> <p>#2857 Schell, B.A., 1981, MX Siting Investigation, geotechnical evaluation, verification study, Muleshoe Valley, NV, Volume I—Synthesis: Technical report to U.S. Department of [Defense] the Air Force, Norton Air Force Base, California, November 6, 1981, scale 1:125,000.</p> <p>#2859 Schell, B.A., 1981, MX Siting Investigation, geotechnical evaluation, verification study, Cave Valley, NV, Volume I—Synthesis: Technical report to U.S. Department of [Defense] Air Force, Norton Air Force Base, California, November 6, 1981, scale 1:125,000.</p>

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