

# 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 Big Smoky Valley (Class A) No. 1343

Last Review Date: 1998-07-18

*citation for this record:* Sawyer, T.L., compiler, 1998, Fault number 1343, unnamed fault east of Big Smoky 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 02:14 PM.

<b>Synopsis</b>	This zone of down-to-the-west normal faults extends along western margin of Big Smoky Valley. The trace is discontinuous; scarps are preserved on higher piedmont-slope surfaces near Round Mountain and a short scarp south of Manhattan Gulch providing evidence for Quaternary movement. The southern end of the fault nearly intersects the Crescent Dunes fault [1340]. Reconnaissance photogeologic mapping of these faults is the source of data. Trench investigations and detailed studies of scarp morphology have not been completed.
<b>Name comments</b>	Refers to faults mapped by Schell (1981 #2844) and Shawe (1995 #2931) near Round Mountain, and faults mapped by Schell (1981 #2844) and Dohrenwend and others (1996 #2846) from Manhattan Gulch southward. The fault extends from south of

	Willow Springs near southern end of the Toquima Range, along western margin of the range, to north of Round Mountain.
<b>County(s) and State(s)</b>	NYE COUNTY, NEVADA
<b>Physiographic province(s)</b>	BASIN AND RANGE
<b>Reliability of location</b>	<p>Good Compiled at 1:100,000 scale.</p> <p><i>Comments:</i> Location based on 1:250,000-scale maps of Schell (1981 #2844) and unpublished map of the Tonopah 1?x2? sheet by J.C. Dohrenwend published at 1:100,000-scale by Dohrenwend and others (1996 #2846). Mapping by Schell (1981 #2843; 1981 #2844) based on photogeologic analysis of primarily 1:24,000-scale color aerial photography supplemented with 1:60,000-scale black-and-white aerial photography, transferred by inspection to 1:62,500-scale topographic maps and photographically reduced and directly transferred to 1:250,000-scale topographic maps, and subsequent field verification. Mapping by Dohrenwend and others (1996 #2846) based on 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. Scarps near Round Mountain were modified from Shawe (1995 #2931), who mapped at a scale of 1:24,000.</p>
<b>Geologic setting</b>	Down-to -the-west group of echelon normal faults along the sinuous western margin of the north-northwest-trending, slightly westward-tilted Toquima Range.
<b>Length (km)</b>	37 km.
<b>Average strike</b>	N6°E
<b>Sense of movement</b>	<p>Normal</p> <p><i>Comments:</i> (Schell, 1981 #2844; Shawe, 1995 #2931)</p>
<b>Dip Direction</b>	W
<b>Paleoseismology studies</b>	
<b>Geomorphic</b>	Fault is expressed as three groups and a solitary scarp on alluvial-

<b>expression</b>	fan deposits near eastern margin of Big Smoky Valley; two groups of scarps are preserved north of Round Mountain and near mouth of Indian Creek, another group of scarps is preserved west of the mouth of Mariposa Canyon, and an individual scarp is preserved south of Manhattan Gulch. Prominent scarps and lineaments on bedrock mark faults within the range north of Manhattan Gulch that are suspected of having Quaternary movement, even though they only displace bedrock.
<b>Age of faulted surficial deposits</b>	Latest Quaternary; Quaternary. Both Schell (1981 #2844) and Dohrenwend and others (1996 #2846) mapped faults displacing Quaternary deposits. Shawe (1995 #2931) mapped the piedmont-slope deposits around Round Mountain in detail (1:24,000 scale) and indicated that some of the faults originally mapped by Schell (1981 #2844) displace Holocene to Pleistocene alluvial-fan deposits, and may displace Holocene alluvium north of Mariposa Canyon.
<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	undifferentiated Quaternary (<1.6 Ma)  <i>Comments:</i> The timing of the most recent event is not well constrained, and the sources do not concur. Schell (1981 #2844) and Dohrenwend and others (1996 #2846) mapped faults displacing Quaternary deposits. However, mapping by Shawe (1995 #2931) indicates a late Quaternary time and possibly a latest Quaternary time (<15 ka). The overall lack of continuity in the trace of the fault suggests that faulting may be much older than that suggested by Shawe (1995 #2931). Therefore, the assigned age is based on Schell (1981 #2844) and Dohrenwend and others (1996 #2846).
<b>Recurrence interval</b>	
<b>Slip-rate category</b>	Less than 0.2 mm/yr  <i>Comments:</i> No age or displacement data are reported that could constrain the slip rate. The late Quaternary characteristics of this fault (overall geomorphic expression, continuity of scarps, age of faulted deposits, etc.) support a low slip rate. Accordingly, the less than 0.2 mm/yr slip-rate category has been assigned to this fault.

<b>Date and Compiler(s)</b>	1998 Thomas L. Sawyer, Piedmont Geosciences, Inc.
<b>References</b>	<p>#2846 Dohrenwend, J.C., Schell, B.A., Menges, C.M., Moring, B.C., and McKittrick, M.A., 1996, Reconnaissance photogeologic map of young (Quaternary and late Tertiary) faults in Nevada, <i>in</i> Singer, D.A., ed., Analysis of Nevada's metal-bearing mineral resources: Nevada Bureau of Mines and Geology Open-File Report 96-2, 1 pl., scale 1:1,000,000.</p> <p>#2843 Schell, B.A., 1981, Faults and lineaments in the MX Siting Region, Nevada and Utah, Volume I: Technical report to U.S. Department of [Defense] the Air Force, Norton Air Force Base, California, under Contract FO4704-80-C-0006, November 6, 1981, 77 p.</p> <p>#2844 Schell, B.A., 1981, Faults and lineaments in the MX Siting Region, Nevada and Utah, Volume II: Technical report to U.S. Department of [Defense] the Air Force, Norton Air Force Base, California, under Contract FO4704-80-C-0006, November 6, 1981, 29 p., 11 pls., scale 1:250,000.</p> <p>#2931 Shawe, D.R., 1995, Geologic map of the Round Mountain quadrangle, Nye County, Nevada: U.S. Geological Survey Geologic quadrangle Map GQ-1756, scale 1:24,000.</p>

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