

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](#).

Midway Hills fault (Class A) No. 1342

Last Review Date: 1998-07-19

citation for this record: Sawyer, T.L., compiler, 1998, Fault number 1342, Midway Hills 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 02:13 PM.

Synopsis	This distributed zone of predominantly down-to-the-west normal faults crosses Midway Hills, low hills comprised of middle Tertiary volcanic rocks on east side of the north-trending San Antonio Mountains. Although several short scarps have been mapped on alluvial deposits and provide evidence for Quaternary movement within the fault zone, the majority of faults displace middle Tertiary volcanic rocks but are suspected to have Quaternary movement. Reconnaissance and detailed photogeologic mapping of this fault zone are the sources of data. Trench investigations and studies of scarp morphology have not been completed.
Name comments	Faults in this zone have been mapped by Schell (1981 #2844, Plate A7), Dohrenwend and others (1996 #2846), and some faults within the San Antonio Mountains also have been mapped by Bonham and Garside (1979 #2930). Schell (1981 #2844) named it the Midway Hills fault. This group of faults extends through

	<p>Midway Hills east of the San Antonio Mountains from northeast of Black Mountain northward to southernmost Toquima Range.</p> <p>Fault ID: Refers to fault 107 on Plate A7 in Schell (1996 #2846).</p>
<p>County(s) and State(s)</p>	<p>NYE COUNTY, NEVADA</p>
<p>Physiographic province(s)</p>	<p>BASIN AND RANGE</p>
<p>Reliability of location</p>	<p>Good Compiled at 1:100,000 scale.</p> <p><i>Comments:</i> Location based on unpublished 1:24,000- and 1:62,500-scale maps of Slemmons (1998; written commun.), 1:250,000-scale maps by Schell (1981 #2844), and Dohrenwend and others (1996 #2846). Mapping of Slemmons was from photogeologic analysis of 1:12,000-scale low-sun-angle aerial photography, transferred using proportional dividers to 1:24,000 and 1:62,500-scale topographic maps. Mapping by Schell (1981 #2843; 1981 #2844) is 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) from photogeologic analysis of 1:58,000-nominal-scale color-infrared photography transferred directly to 1:100,000-scale topographic maps enlarged to scale of the photographs.</p>
<p>Geologic setting</p>	<p>This distributed zone of predominantly down-to-the-west normal faults crosses Midway Hills, low hills comprised of middle Tertiary volcanic rocks on east side of the north-trending San Antonio Mountains. Several short scarps are on alluvial deposits and, thus, provide evidence for Quaternary movement within the fault zone (Slemmons, 1998; written commun.; Schell, 1981 #2844), the majority of faults displace middle Tertiary volcanic rocks and are suspected to have Quaternary movement. Schell (1981 #2844) reported that the Midway Hills fault "may be part of a major basin bounding fault at east base of San Antonio Mountains extending from the Toquima Range to Mud Lake"; thus this fault may be related to fault 1341.</p>

Length (km)	26 km.
Average strike	N3°E
Sense of movement	Normal <i>Comments:</i> (Bonham and Garside, 1979 #2930; Schell, 1981 #2844; Kleinhampl and Ziony, 1985 #2851)
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	The fault is expressed mostly by scarps and prominent lineaments on Tertiary volcanic rocks across Midway Hills and bounding bedrock hill west of Black Rock Well. A group of scarps east of San Antonio Mine and an isolated scarp near southernmost tip of Toquima Range are preserved on high-level piedmont-slope surfaces (Slemmons, 1998; written commun.; Bonham and Garside, 1979 #2930; Schell, 1981 #2844; Dohrenwend and others, 1996 #2846).
Age of faulted surficial deposits	Late Pleistocene; Quaternary; middle Tertiary. Scarps are preserved on late Pleistocene and Quaternary alluvial-fan deposits (Slemmons, 1998; written commun.; Schell, 1981 #2844) and numerous faults displace Tertiary volcanic rocks (Slemmons, 1967 #156; Schell, 1981 #2844; Bonham and Garside, 1979 #2930; Dohrenwend and others, 1996 #2846).
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) <i>Comments:</i> Although timing of the most recent event is not well constrained, reconnaissance studies Dohrenwend and others (1996 #2846) suggest a late Pleistocene time of movement.
Recurrence interval	
Slip-rate category	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.
Date and Compiler(s)	1998 Thomas L. Sawyer, Piedmont Geosciences, Inc.
References	<p>#2930 Bonham, H., and Garside, L., 1979, Geologic map of the Tonopah, Lone Mountain, Klondike, and northern Mud Lake quadrangles: Nevada Bureau of Mines and Geology Bulletin 92, 142 p.</p> <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>#2851 Kleinhampl, F.J., and Ziony, J.I., 1985, Geology of Northern Nye County, Nevada: Nevada Bureau of Mines and Geology Bulletin 99A, 172 p.</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>

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