

# 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 faults near Massacre Lake (Class A) No. 1476

Last Review Date: 1998-07-19

*citation for this record:* Sawyer, T.L., compiler, 1998, Fault number 1476, unnamed faults near Massacre Lake, 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

These faults occur in a highly distributed group of northwest-striking faults in the Massacre Lake region cut across a broad Tertiary volcanic plateau east of Long Valley from State Route 8A northwestward along front of Table Butte, across Bitner Table, Bald Mountain and Buck Pasture, and to the west and northwest of Massacre Lake along and adjacent to east-central border of Long Valley. Many of the faults in this zone terminate against or near the possibly related fault [1469] that bounds Long Valley on the east. The volcanic plateau adjacent to east side of Long Valley is an eastward-tilted fault block (Stewart, 1978 #2866). Not shown here are the faults in this zone that are expressed as topographic lineaments on Tertiary volcanic and sedimentary rocks (and are thus considered as Class C features). The faults shown here are along the east side of Long Valley northeast of Vya and southeast of Massacre Lake because Quaternary deposits

	<p>appear to be juxtaposed against Tertiary bedrock suggesting young movement. Reconnaissance photogeologic mapping of the fault zone and geologic mapping of the region are the sources of data. Trench investigations and detailed studies of scarp morphology have not been conducted.</p>
<b>Name comments</b>	<p>Refers to faults mapped by Bonham (1969 #2999) and Dohrenwend and Moring (1991 #281) in broad plateau of the Massacre Lake region that extend from State Route 8A northwestward along front of Table Butte, across Bitner Table, Bald Mountain and Buck Pasture and to the west and northwest of the lake; a few fault traces near the east side of Long Valley were mapped by Slemmons ( 196, unpublished Vya 1? X 2? sheet).</p>
<b>County(s) and State(s)</b>	<p>WASHOE COUNTY, NEVADA</p>
<b>Physiographic province(s)</b>	<p>BASIN AND RANGE</p>
<b>Reliability of location</b>	<p>Good Compiled at 1:100,000 scale.</p> <p><i>Comments:</i> Fault locations are based on 1:250,000-scale map of Dohrenwend and Moring (1991 #281), which is from 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 and then reduced and transferred to 1:250,000-scale topographic maps. A fault locations near the east side of Long Valley are based on 1:250,000-scale map of Slemmons (1966, unpublished Vya 1? X 2? sheet); mapping from analysis of 1:60,000-scale AMS photography transferred to mylar overlaid onto a 1:250,000-scale topographic map using proportional dividers.</p>
<b>Geologic setting</b>	<p>The two faults represented here are part of a highly distributed group of northwest-striking faults in the Massacre Lake region cuts across a broad Tertiary volcanic plateau east of Long Valley from State Route 8A northwestward along front of Table Butte, across Bitner Table, Bald Mountain and Buck Pasture, and to the west and northwest of Massacre Lake along and adjacent to east-central border of Long Valley (Bonham, 1969 #2999; Dohrenwend and Moring, 1991 #281). Numerous faults in this zone terminate against or near the possibly related fault bounding Long Valley on the east [1469]. The volcanic plateau adjacent to</p>

	east side of Long Valley is an eastward-tilted fault block (Stewart, 1978 #2866).
<b>Length (km)</b>	22 km.
<b>Average strike</b>	N47°W
<b>Sense of movement</b>	Normal  <i>Comments:</i> Not studied in detail; sense of movement is inferred from topography.
<b>Dip Direction</b>	SW; NE
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	Although these faults are generally expressed as continuous topographic lineaments on Tertiary volcanic and sedimentary rocks, Quaternary deposits appear to be juxtaposed against Tertiary bedrock in two locations, along the east side of Long Valley northeast of Vya and southeast of Massacre Lake near State Route 8A, suggesting young movement (Dohrenwend and Moring, 1991 #281). These latter faults are the only ones shown on the map for fault 1476; the others are considered as Class C features and are not shown.
<b>Age of faulted surficial deposits</b>	Quaternary; Tertiary. Based on reconnaissance photogeologic mapping Quaternary piedmont-slope deposits appear to be faulted against Tertiary bedrock, although the majority of faults displace only Tertiary volcanic and sedimentary rocks (Bonham, 1969 #2999; Dohrenwend and Moring, 1991 #281).
<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	undifferentiated Quaternary (<1.6 Ma)  <i>Comments:</i> The timing of most recent event is not well constrained, a Quaternary time is suggested for the Class A faults in the zone based on reconnaissance photogeologic mapping of Dohrenwend and Moring (1991 #281) and Slemmons (1966, unpublished Vya 1? X 2? sheet). The Class C faults are considered to be Tertiary, unproven Quaternary structures.
<b>Recurrence</b>	

<b>interval</b>	
<b>Slip-rate category</b>	Less than 0.2 mm/yr  <i>Comments:</i> A low slip rate is inferred from general knowledge of slip rates estimated for other faults in the region and height of topographic escarpments on Tertiary basalt.
<b>Date and Compiler(s)</b>	1998 Thomas L. Sawyer, Piedmont Geosciences, Inc.
<b>References</b>	#2999 Bonham, H.F., 1969, Geology and mineral deposits of Washoe and Storey Counties, Nevada: Nevada Bureau of Mines and Geology Bulletin 70, 140 p., 1 pl., scale 1:250,000.  #281 Dohrenwend, J.C., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the Vya 1° by 2° quadrangle, Nevada, Oregon, and California: U.S. Geological Survey Miscellaneous Field Studies Map MF-2174, 1 sheet, scale 1:250,000.  #2866 Stewart, J.H., 1978, Basin-range structure in western North America— A review, <i>in</i> Smith, R.B., and Eaton, G.P., eds., Cenozoic tectonics and regional geophysics of the western cordillera: Geological Society of America Memoir 152, p. 1-31, scale 1:2,500,000.

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