

# 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 east of Austin (Class A) No. 1198

Last Review Date: 2000-10-03

*citation for this record:* Lidke, D.J., compiler, 2000, Fault number 1198, unnamed faults east of Austin, 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 02:17 PM.

### Synopsis

This north-striking zone of faults is V-shaped and roughly outlines the southwestern most end of Grass Valley, where it forms a small reentrant in the eastern flank of the northern part of the Toiyabe Range. The fault is zone is characterized mostly by faults that place bedrock of the Toiyabe Range against Quaternary piedmont-slope deposits of the Grass Valley. The fault scarps along the northeastern part of the zone have evidence for at least one Quaternary faulting event that occurred in early Pleistocene or later time. The faults show down-to-the-valley stratigraphic offset, which suggests that the zone comprises a graben structure that coincides with the southwestern end of the Grass Valley. The fault zone has not been studied in detail, however, and little is actually known with certainty about its nature, character, and movement history. Reconnaissance photogeologic mapping provides the only known source of data for these faults.

<b>Name comments</b>	Refers to north-striking faults mapped by Dohrenwend and others (1992 #283), which are present at the southwestern end of the Grass Valley in a small reentrant along the east side of the northern part of the Toiyabe Range. These faults, apparently, had not been named. This relatively short and discontinuous zone of faults extends from about 5 km southwest of Rye Patch Spring southwest to directly east of Bob Scotts Summit.
<b>County(s) and State(s)</b>	LANDER COUNTY, NEVADA
<b>Physiographic province(s)</b>	BASIN AND RANGE
<b>Reliability of location</b>	<p>Good Compiled at 1:250,000 scale.</p> <p><i>Comments:</i> Location is from 1:250,000-scale map of Dohrenwend and others (1992 #283) that shows mapping based on photogeologic analysis of 1:58,000-nominal-scale, color-infrared photography, which was transferred directly to 1:100,000-scale topographic maps enlarged to the scale of the photographs. The 1:100,000-scale fault maps were reduced and compiled at 1:250,000-scale for final publication.</p>
<b>Geologic setting</b>	<p>This V-shaped zone of faults appears to define a graben that coincides with the southwestern end of Grass Valley, and form a reentrant along the eastern flank of the Toiyabe Range. Faults of this zone show down-to-the-valley stratigraphic offset that place Tertiary volcanic and granitic rocks of the Toiyabe Range against Quaternary piedmont-slope deposits of the Grass Valley. Evidence for Quaternary movement along these faults probably implies some continued down-dropping of the southwestern end of the Grass Valley relative to the Toiyabe Range. Fault scarps apparently are sparse, but show both east- and west-facing scarps along the northeastern part of the fault zone. The opposed aspect of these scarps may indicate the presence of small graben and horst structures along and adjacent to the fault zone. The fault zone has not been studied in detail, however, and other insights and estimates that concern Quaternary offsets have not been reported.</p>
<b>Length (km)</b>	11 km.

<b>Average strike</b>	N20°E
<b>Sense of movement</b>	Normal  <i>Comments:</i> Not specifically reported, however, the down-to-the-valley offsets suggest that they define a graben that has been downdropped along principally normal faults that dip toward the center of the valley.
<b>Dip Direction</b>	NW; NE  <i>Comments:</i> Not reported, but probably steep, based on dip measurements of other Quaternary faults in localities nearby and elsewhere in the Basin and Range Province.
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	This fault zone has a V-shaped form in map view that is expressed mainly by faults that place bedrock against piedmont-slope deposits of the Grass Valley and by sparse fault scarps on the piedmont-slope deposits (Dohrenwend and others, 1992 #283).
<b>Age of faulted surficial deposits</b>	Dohrenwend and others (1992 #283) did not specifically assign ages to most of the faulted deposits along faults of this zone. Their map, however, indicates that Quaternary deposits are displaced against bedrock along these faults and they did assign an early to middle and (or) late Pleistocene age to faulted deposits along a fault scarp of this zone.
<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	undifferentiated Quaternary (<1.6 Ma)  <i>Comments:</i> The timing of the most recent prehistoric faulting event is not well constrained. Based on reconnaissance photogeologic mapping, Dohrenwend and others (1992 #283) indicated that the most recent faulting event is no older than early Pleistocene (<1.6 Ma) and may be as young as late Pleistocene (<130 ka) in age.
<b>Recurrence interval</b>	
<b>Slip-rate</b>	Less than 0.2 mm/yr

<b>category</b>	<i>Comments:</i> Not reported; low slip rate selected on the basis of the faults geomorphic expression.
<b>Date and Compiler(s)</b>	2000 David J. Lidke, U.S. Geological Survey
<b>References</b>	#283 Dohrenwend, J.C., Schell, B.A., and Moring, B.C., 1992, Reconnaissance photogeologic map of young faults in the Millett 1° by 2° quadrangle, Nevada: U.S. Geological Survey Miscellaneous Field Studies Map MF-2176, 1 sheet, scale 1:250,000.

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