

# 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 Sheephead Mountains fault (Class A) No. 1800

Last Review Date: 2002-12-09

*citation for this record:* Personius, S.F., compiler, 2002, Fault number 1800, unnamed Sheephead Mountains 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 02:24 PM.

<b>Synopsis</b>	These north-striking high-angle faults form several grabens in Miocene volcanic rocks in southeastern Oregon. No detailed information on Quaternary offset is available. Limited airphoto reconnaissance suggests possible Quaternary displacement.
<b>Name comments</b>	These unnamed faults form several grabens in Miocene volcanic rocks in the Sheephead Mountains of southeastern Oregon (Russell, 1884 #5099; Walker and Repenning, 1965 #3559; Sherrod and others, 1989 #3745; Walker and MacLeod, #3646).
<b>County(s) and State(s)</b>	HARNEY COUNTY, OREGON
<b>Physiographic province(s)</b>	COLUMBIA PLATEAU BASIN AND RANGE
<b>Reliability of</b>	Good

<b>location</b>	<p>Compiled at 1:50,000 and 1:250,000 scale.</p> <p><i>Comments:</i> Location of fault from ORActiveFaults (<a href="http://www.oregongeology.org/arcgis/rest/services/Public/ORActiveFaults/MapS">http://www.oregongeology.org/arcgis/rest/services/Public/ORActiveFaults/MapS</a> downloaded 06/02/2016) attributed to 1:50,000-scale mapping of Sherrod and others (1989 #3745), 1:250,000-scale mapping of Walker and Repenning (1965 #3559), mapping by Evans and Geisler (2001 #7801).</p>
<b>Geologic setting</b>	<p>These north-striking faults form several grabens in Miocene volcanic rocks (Walker and Repenning, 1965 #3559; Sherrod and others, 1989 #3745; Walker and MacLeod, 1991 #3646).</p>
<b>Length (km)</b>	29 km.
<b>Average strike</b>	N12°W
<b>Sense of movement</b>	<p>Normal</p> <p><i>Comments:</i> These faults are mapped as normal or high-angle faults by Walker and Repenning (1965 #3559), Sherrod and others (1989 #3745), and Walker and MacLeod (1991 #3646).</p>
<b>Dip Direction</b>	E; W
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	<p>These faults form several north-trending grabens filled with Quaternary alluvial and lacustrine sediments and are marked by 100-m-high escarpments on Miocene volcanic rocks. Sherrod and others (1989 #3745) observed no deformation of Quaternary surficial and volcanic rocks on faults in the Sheepshead Mountains. Weldon and others (2002 #5648) observed lineaments across Quaternary units on 1:100,000-scale D of the area.</p>
<b>Age of faulted surficial deposits</b>	<p>These faults offset Miocene volcanic rocks (Walker and Repenning, 1965 #3559; Sherrod and others, 1989 #3745; Walker and MacLeod, 1991 #3646). Sherrod and others (1989 #3745) observed no deformation of Quaternary surficial and volcanic rocks on faults in the Sheepshead Mountains, but Walker and Repenning (1965 #3559) and Walker and MacLeod (1991 #3646) map Pleistocene to Holocene alluvium faulted against Miocene bedrock along some of these faults.</p>
<b>Historic earthquake</b>	
<b>Most recent prehistoric</b>	undifferentiated Quaternary (<1.6 Ma)

<b>deformation</b>	<i>Comments:</i> Sherrod and others (1989 #3745) observed no deformation of Quaternary surficial and volcanic rocks on faults in the Sheepshead Mountains, but Weldon and others (2002 #5648) used airphotos, 1:100,000 scale DEMs, and geomorphic analysis to infer fault activity in the Quaternary (<1.6 Ma).
<b>Recurrence interval</b>	
<b>Slip-rate category</b>	Less than 0.2 mm/yr  <i>Comments:</i> No published slip rate data are available for these faults. However, Sherrod and others (1989 #3745) observed as much as 325 m of offset of Miocene volcanic rocks on major faults in the Sheepshead Mountains. Such offsets imply low rates long-term slip.
<b>Date and Compiler(s)</b>	2002 Stephen F. Personius, U.S. Geological Survey
<b>References</b>	#7801 Evans, J.G., and Geisler, T.M., 2001, Geologic field-trip guide to Steens Mountain Loop Road, Harney County, Oregon: U.S. Geological Survey Bulletin 15 p., 1 pl., 1:100,000 scale.  #3745 Sherrod, D.R., Minor, S.A., and Vercoutere, T.L., 1989, Geologic map of the Sheepshead Mountains, Harney and Malheur Counties, Oregon: U.S. Geological Survey Miscellaneous Field Studies Map MF-2079, 1 sheet, scale 1:50,000.  #3646 Walker, G.W., and MacLeod, N.S., 1991, Geologic map of Oregon: U.S. Geological Survey, Special Geologic Map, 2 sheets, scale 1:500,000.  #3559 Walker, G.W., and Repenning, C.A., 1965, Reconnaissance geologic map of the Adel quadrangle, Lake, Harney, and Malheur Counties, Oregon: U.S. Geological Survey Miscellaneous Geologic Investigations I-446, 1 sheet, scale 1:250,000.  #5648 Weldon, R.J., Fletcher, D.K., Weldon, E.M., Scharer, K.M., and McCrory, 2002, An update of Quaternary faults of central and eastern Oregon: U.S. Geological Survey Open-File Report 02-301 (CD-ROM), 26 sheets, scale 1:100,000.

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