

# 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 in Fox Basin (Class B) No. 811

Last Review Date: 2002-12-03

*citation for this record:* Personius, S.F., compiler, 2002, Fault number 811, unnamed fault in Fox Basin, 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 01:58 PM.

<b>Synopsis</b>	The east-trending, fault in Fox basin is parallel to and may structurally control the north flank of the Fox basin in central Oregon. No detailed information on Quaternary offset are available, and the fault is not shown on geologic maps of the area. The fault is herein classified as a Class B structure until further studies are conducted.
<b>Name comments</b>	This unnamed normal fault may form the northern margin of the Fox basin in central Oregon.
<b>County(s) and State(s)</b>	GRANT COUNTY, OREGON
<b>Physiographic province(s)</b>	COLUMBIA PLATEAU
<b>Reliability of location</b>	Good Compiled at 1:100,000 scale.

	<i>Comments:</i> Fault location is from 1:100,000-scale mapping of Weldon and others (2002 #5648), based on 1:500,000-scale mapping of Pezzopane (1993 #3544).
<b>Geologic setting</b>	The unnamed Fox basin fault of Pezzopane (1993 #3544) is parallel to and may structurally control the north flank of the Fox basin. This area is underlain by Miocene Columbia River Basalt Group rocks, Upper Miocene to Pliocene Mascall Formation sedimentary rocks, and lower Pleistocene alluvial deposits that are equivalent in part to the Plio-Pleistocene Rattlesnake Formation, but no existing geologic maps show a fault in this location (Brown and Thayer, 1966 #3577; Newcomb, 1970 #3761; Walker and MacLeod, 1991 #3646).
<b>Length (km)</b>	6 km.
<b>Average strike</b>	N64°W
<b>Sense of movement</b>	Normal  <i>Comments:</i> This structure is depicted as a normal or high angle fault by Pezzopane (1993 #3544).
<b>Dip Direction</b>	S
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	
<b>Age of faulted surficial deposits</b>	No information on the age of faulted deposits has been described. Existing geologic maps show an unfaulted contact between Miocene Columbia River Basalt Group rocks and lower Pleistocene alluvial deposits at the location mapped by Pezzopane (1993 #3544).
<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	undifferentiated Quaternary (<1.6 Ma)  <i>Comments:</i> Pezzopane (1993 #3544) and subsequent compilations (Geomatrix Consultants Inc., 1995 #3593; Madin and Mabey, 1996 #3575) infer middle and late Quaternary displacement (<700–780 ka), but did not describe the evidence used to infer this

	age. A recent compilation (Weldon and others, 2002 #5648) classifies this fault as possible Quaternary. Herein we classify this fault as a Class B structure until further studies are conducted.
<b>Recurrence interval</b>	
<b>Slip-rate category</b>	Less than 0.2 mm/yr  <i>Comments:</i> No published slip rates are available for the unnamed Fox basin fault, but the fact that it is not included on existing geologic maps suggests low rates of slip.
<b>Date and Compiler(s)</b>	2002 Stephen F. Personius, U.S. Geological Survey
<b>References</b>	<p>#3577 Brown, E.C., and Thayer, T.P., 1966, Geologic map of the Canyon City quadrangle northeastern Oregon: U.S. Geological Survey Miscellaneous Geologic Investigations I-447, 1 sheet, scale 1:250,000.</p> <p>#3593 Geomatrix Consultants, Inc., 1995, Seismic design mapping, State of Oregon: Technical report to Oregon Department of Transportation, Salem, Oregon, under Contract 11688, January 1995, unpaginated, 5 pls., scale 1:1,250,000.</p> <p>#3575 Madin, I.P., and Mabey, M.A., 1996, Earthquake hazard maps for Oregon: State of Oregon, Department of Geology and Mineral Industries Geological Map Series GMS-100, 1 sheet.</p> <p>#3761 Newcomb, R.C., 1970, Tectonic structure of the main part of the basalt of the Columbia River Group Washington, Oregon, and Idaho: U.S. Geological Survey Miscellaneous Geologic Investigations I-587, 1 sheet, scale 1:500,000.</p> <p>#3544 Pezzopane, S.K., 1993, Active faults and earthquake ground motions in Oregon: Eugene, Oregon, University of Oregon, unpublished Ph.D. dissertation, 208 p.</p> <p>#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.</p> <p>#5648 Weldon, R.J., Fletcher, D.K., Weldon, E.M., Scharer, K.M., and McCrory, P.A., 2002, An update of Quaternary faults of</p>

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