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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 Kiwa Butte (Class A) No. 842

Last Review Date: 2002-12-06

citation for this record: **Personius, S.F., compiler, 2002, Fault number 842, unnamed faults near Kiwa Butte, 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 03:15 PM.**

Synopsis	These north-trending faults parallel the trend of eruptive centers in the late Quate Mount Bachelor volcanic chain in central Oregon. No detailed information on Quaternary offset are available, but limited airphoto and DEM analysis suggests possible Quaternary displacement.
Name comments	These unnamed faults are located south of Kiwa Butte in central Oregon (Pezzop 1993 #3544; Geomatrix Consultants Inc., 1995 #3593; Weldon and others, 2002 #5648).
County(s) and State(s)	DESCHUTES COUNTY, OREGON
Physiographic province(s)	COLUMBIA PLATEAU
Reliability of	Good

location	Compiled at 1:100,000 scale. *Comments:* Location of fault from ORActiveFaults (http://www.oregongeology.org/arcgis/rest/services/Public/ORActiveFaults/MapS downloaded 06/02/2016) attributed to McLeod and others (1995 #3557).
Geologic setting	These northwest-trending faults parallel the trend of eruptive centers in the late Quaternary Mount Bachelor volcanic chain in central Oregon. The area is underla lower to upper Pleistocene volcanic rocks (Scott and Gardner, 1992 #3569). The eastern of these two faults is shown on small-scale geologic compilations of the a cutting Plio-Pleistocene basaltic andesite (Walker and MacLeod, 1991 #3646; MacLeod and Sherrod, 1992 #3566).
Length (km)	7 km.
Average strike	N45°W
Sense of movement	Normal
Dip Direction	NE
Paleoseismology studies	
Geomorphic expression	No information on geomorphic expression has been described. Pezzopane (1993 #3544) apparently used airphoto analysis to infer Quaternary displacement, and Weldon and others (2002 #5648) map lineaments across Quaternary units based c interpretation of 1:100,000-scale DEMs along the eastern of these two faults.
Age of faulted surficial deposits	The eastern of these two faults is shown on small-scale geologic compilations of area, cutting Plio-Pleistocene basaltic andesite (Walker and MacLeod, 1991 #364 MacLeod and Sherrod, 1992 #3566).
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Pezzopane (1993 #3544) and subsequent compilations (Geomatrix Consultants Inc., 1995 #3593; Madin and Mabey, 1996 #3575) inferred late and r Quaternary (<700–780 ka) displacement, but a follow-up compilation (Weldon ar others, 2002 #5648) inferred Quaternary (<1.6 Ma) displacement on a similar set faults.
Recurrence	

interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* No published slip data are available for the unnamed faults near Kiwa Butte.
Date and Compiler(s)	2002 Stephen F. Personius, U.S. Geological Survey
References	#3593 Geomatrix Consultants, Inc., 1995, Seismic design mapping, State of Oreg Technical report to Oregon Department of Transportation, Salem, Oregon, under Contract 11688, January 1995, unpaginated, 5 pls., scale 1:1,250,000. #3566 MacLeod, N.S., and Sherrod, D.R., 1992, Reconnaissance geologic map o west half of the Crescent 1° by 2° quadrangle, central Oregon: U.S. Geological S Miscellaneous Investigations Map I-2215, 1 sheet, scale 1:250,000. #3557 MacLeod, N.S., Sherrod, D.R., Chitwood, L.A., and Jensen, R.A., 1995, Geologic map of Newberry Volcano, Deschutes, Klamath, and Lake Counties, Or U.S. Geological Survey Miscellaneous Investigations Map I-2455, 2 sheets, scale 1:24,000 and 1:62,500. #3575 Madin, I.P., and Mabey, M.A., 1996, Earthquake hazard maps for Oregon: of Oregon, Department of Geology and Mineral Industries Geological Map Serie GMS-100, 1 sheet. #3544 Pezzopane, S.K., 1993, Active faults and earthquake ground motions in Or Eugene, Oregon, University of Oregon, unpublished Ph.D. dissertation, 208 p. #3569 Scott, W.E., and Gardner, C.A., 1992, Geologic map of the Mount Bachelo volcanic chain and surrounding area, Cascade Range, Oregon: U.S. Geological S Miscellaneous Investigations Map I-1967, 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. #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. Geolog Survey Open-File Report 02-301 (CD-ROM), 26 sheets, scale 1:100,000.

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