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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 Catlow Valley faults, Hawksy Walksy Valley section (Class A) No. 824b

Last Review Date: 2002-12-04

citation for this record: **Personius, S.F., compiler, 2002, Fault number 824b, unnamed Catlow Valley faults, Hawksy Walksy Valley section, 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.**

Synopsis	**General:** The unnamed Catlow Valley faults are marked by prominent, up to 0.5- high escarpments that separate the eastern margin of Catlow Valley from the west flanks of Steens Mountain and the Pueblo Mountains and the western margin of t Hawksy Walksy Valley to the southwest. No fault scarps on Quaternary deposits l been described along the fault traces. **Sections:** This fault has 2 sections. The Catlow Valley section is a down-to-the-w normal fault that forms the eastern margin of the Catlow Valley; the Hawksy Wal Valley section is a down-to-the-east normal fault that forms the western margin o Hawksy Walksy Valley.
Name comments	**General:** These faults were mapped in the Catlow and Hawksy Walksy valleys b Walker and Repenning (1965 #3559) and Walker and MacLeod (1991 #3646). Pezzopane (1993 #3544), Geomatrix Consultants, Inc. (1995 #3593), Madin and Mabey (1996 #3575), and Weldon and others (2002 #5648) include these faults i

	compilations of Quaternary faults in Oregon. Hopkins and Dawers (2016 #7372) the name Cutlow Valley fault to refer to the fault bounding Cutlow Valley.
County(s) and State(s)	HARNEY COUNTY, OREGON
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Location of fault from ORActiveFaults (http://www.oregongeology.org/arcgis/rest/services/Public/ORActiveFaults/MapS downloaded 06/02/2016) attributed to 1:250,000-scale mapping Walker and Repe (1965 #3559).
Geologic setting	These north-trending normal faults lie near the northern boundary of the Basin an Range province in southeastern Oregon. They form the eastern margin of the Cat Valley and the western margin of the Hawksy Walksy Valley. The area is underlai Miocene volcanic rocks (Walker and Repenning, 1965 #3559; Walker and MacLe 1991 #3646).
Length (km)	This section is 11 km of a total fault length of 77 km.
Average strike	N8°E (for section) versus N0°E (for whole fault)
Sense of movement	Normal *Comments:* This fault is mapped as a normal or high-angle fault by Walker and Repenning (1965 #3559) and Walker and MacLeod (1991 #3646).
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	The Hawksy Walksy Valley section is marked by prominent, 20- to 180-m-high escarpments that form the western margin of the Hawksy Walksy Valley, but no f scarps on Quaternary deposits have been described along its trace.
Age of faulted surficial deposits	The Hawksy Walksy Valley section forms prominent escarpments in Miocene rhy tuffs and vent rocks (Walker and Repenning, 1965 #3559; Walker and MacLeod, #3646). In places, bedrock is mapped as juxtaposed against Quaternary alluvium (Walker and Repenning, 1965 #3559; Walker and MacLeod, 1991 #3646). No fau scarps on Quaternary deposits have been reported along the fault trace, although Weldon and others (2002 #5648) describe lineaments across Quaternary deposits

	1:100,000-scale DEMs of the fault trace.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Weldon and others (2002 #5648) used analysis of airphotos and 1:10(scale DEMs to infer Quaternary displacement on these faults. No other fault compilation in the region includes these faults as potential seismic sources (Pezzo 1993 #3544; Geomatrix Consultants Inc., 1995 #3593; Madin and Mabey, 1996 #3575).
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* No published slip rates are available for the Hawksy Walksy Valley section. However, 180-m-high escarpments in Miocene volcanic rocks indicate lo rates of long-term slip.
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. #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. #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 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. Geolog Survey Open-File Report 02-301 (CD-ROM), 26 sheets, scale 1:100,000.