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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.

Deadman fault (Class A) No. 606

Last Review Date: 1993-03-29

Compiled in cooperation with the Montana Bureau of Mines and Geology and the Idaho Geological Survey

citation for this record: **Haller, K.M., compiler, 1993, Fault number 606, Deadman 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 03:02 PM.**

Synopsis	The Deadman fault is a high-angle range front and intra basin fault along the southwest side of the Tendoy Mountains. Its Quaternary history is poorly understood and Quaternary movement is not demonstrably proven, no known studies have been completed at time of this compilation.
Name comments	An early reference to the Deadman fault is Scholten and others (1955 #69) who showed the fault extending from east of Island Butte south to Black Canyon. Ostenaa and Wood (1990 #318) showed the fault as being longer and is the source for trace shown here. Skipp (1984 #452) mapped part of the fault (called

	Deadman fault zone) in detail and is the source of the complex, echelon traces between 44?15' and 44?30' latitude. **Fault ID:** Refers to number 104 (unnamed fault) of Witkind (1975 #320) and number 11 (Deadman fault) of Witkind (1975 #317).
County(s) and State(s)	BEAVERHEAD COUNTY, MONTANA CLARK COUNTY, IDAHO
Physiographic province(s)	NORTHERN ROCKY MOUNTAINS
Reliability of location	Poor Compiled at 1:250,000 scale. *Comments:* Most of fault as shown is from 1:700,000-scale map of Ostenaa and Wood (1990 #318); well located part of fault is between 44?15' and 44?30' latitude from 1:62,000-scale map of Skipp (1984 #452).
Geologic setting	High-angle, down-to-southwest, range-front and intrabasin normal fault bounding southwest side of Tendoy Mountains. Total stratigraphic offset unknown; however, tuff that predates 5 Ma is offset more than 150 m.
Length (km)	71 km.
Average strike	N54°W
Sense of movement	Normal *Comments:* (Scholten and others, 1955 #69)
Dip Direction	SW
Paleoseismology studies	
Geomorphic expression	Scholten and others (1955 #69) report remnants of triangular facets.
Age of faulted surficial deposits	Skipp (1984 #452) shows the fault crossing upper Quaternary deposits.
Historic	

earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Details of age of faulting are incomplete. Witkind (1975 #320; 1975 #317) suggested that the Idaho part of fault probably has Quaternary movement but indicates that the Montana part is Tertiary or Quaternary. Skipp (1984 #452) shows the fault crossing upper Quaternary deposits, which led Ostenaa and Wood (1990 #318) to speculate that at least part is Pleistocene or possibly Holocene. Pierce and Morgan (1992 #539) indicate that this fault was active during the Tertiary but do not preclude Quaternary movement. Bartholomew and Stickney examined several sites along the part of the fault in Montana and found no evidence suggesting late Quaternary faulting (M.J. Bartholomew, written commun., 1997). Because details are lacking, the fault is included in this compilation. Due to the lack of agreement in the timing of the most recent movement, a Quaternary age is assigned here.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Low slip rate inferred based on Edie School rhyolite, shown as Tuff of Blacktail Butte (>5 Ma) by Skipp (1984 #452), displaced more tha 150 m by late Tertiary or Quaternary movement (Scholten and others, 1955 #69). From these data, Wong and others (2000 #4484) calculated a preferred slip rate of 0.03 mm/yr (with an assigned probablilty of activity of 0.7) for their probabilistic seismic hazard analyses of the region; however, no new field investigations were initiated for this study.
Date and Compiler(s)	1993 Kathleen M. Haller, U.S. Geological Survey
References	#318 Ostenaa, D., and Wood, C., 1990, Seismotectonic study for Clark Canyon Dam, Pick-Sloan Missouri Basin Program, Montana: U.S. Bureau of Reclamation Seismotectonic Report 90-4, 78 p., 1 pl. #539 Pierce, K.L., and Morgan, L.A., 1992, The track of the Yellowstone hot spot—Volcanism, faulting, and uplift, *in* Link, P.K., Kuntz, M.A., and Platt, L.B., eds., Regional geology of eastern Idaho and western Wyoming: Geological Society of

America Memoir 179, p. 1-53, 1 pl.

#69 Scholten, R., Keenmon, K.A., and Kupsch, W.O., 1955, Geology of the Lima region, southwestern Montana and adjacent Idaho: Geological Society of America Bulletin, v. 66, p. 345-404.

#452 Skipp, B., 1984, Geologic map and cross sections of the Italian Peak and Italian Peak Middle Roadless Areas, Beaverhead County, Montana, and Clark and Lemhi Counties, Idaho: U.S. Geological Survey Miscellaneous Field Studies Map MF-1601-B, 1 sheet, scale 1:62,500.

#317 Witkind, I.J., 1975, Preliminary map showing known and suspected active faults in western Montana: U.S. Geological Survey Open-File Report 75-285, 36 p. pamphlet, 1 sheet, scale 1:500,000.

#320 Witkind, I.J., 1975, Preliminary map showing known and suspected active faults in Idaho: U.S. Geological Survey Open-File Report 75-278, 71 p. pamphlet, 1 sheet, scale 1:500,000.

#4484 Wong, I., Olig, S., and Dober, M., 2000, Preliminary probabilistic seismic hazard analyses—Island Park, Grassy Lake, Jackson Lake, Palisades, and Ririe Dams: U.S. Department of the Interior, Bureau of Reclamation Technical Memorandum D8330-2000-17.