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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 Opal Creek (Class A) No. 748

Last Review Date: 1998-03-30

citation for this record: **Pierce, K.L., compiler, 1998, Fault number 748, unnamed faults near Opal Creek, 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 01:59 PM.**

Synopsis	This group of faults is mapped in late Pinedale alluvial deposits of the Lamar Valley, near Opal Creek. The faults generally show as lineaments on aerial photographs and the associated scarps are not easily recognizable in the field. The faults are at the eastern end of the Lamar River fault, which does not appear to offset Lava Creek Tuff and is considered pre-Quaternary; therefore it is not included in this compilation. The Opal Creek faults should be reexamined for further evidence of Quaternary movement.
Name comments	These unnamed faults form a small graben along the Lamar River Valley near Opal Creek (U.S. Geological Survey, 1972, #639; Pierce, 1974 #2217).
County(s) and	PARK COUNTY, WYOMING

State(s)	PARK COUNTY, WYOMING
Physiographic province(s)	MIDDLE ROCKY MOUNTAINS
Reliability of location	Good Compiled at 1:125,000 scale. *Comments:* Mapped at 1:62,500 scale by Pierce (1974 #2217) and compiled at 1:125,000 scale by the U.S. Geological Survey (U.S. Geological Survey, 1972, #639; U.S. Geological Survey, 1972 #1057).
Geologic setting	Located along the southwest side of Lamar River valley. Some authors have inferred a major fault that follows the prominent northwest linear trend of the Lamar Valley, but offset of Absaroka Volcanics across the valley is minimal.
Length (km)	3 km.
Average strike	N53°W
Sense of movement	Normal
Dip Direction	NE *Comments:* Main fault presumably dips northeast.
Paleoseismology studies	
Geomorphic expression	Expressed on aerial photographs and forms subdued scarps on late-glacial (Pinedale) gravel and sandy kame deposits.
Age of faulted surficial deposits	Faults cut late-glacial (about 15 ka) gravel and sandy kame deposits, which are interpreted by the compiler to be a sandy delta built into a late glacial (Pinedale) lake.
Historic earthquake	
Most recent prehistoric deformation	latest Quaternary (<15 ka) *Comments:* Young movement based on presence of scarps formed on late-glacial (latest Pleistocene, about 15 ka) deposits.

Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Low slip-rate category inferred from fault scarps that are generally low (<1 m high), where present.
Date and Compiler(s)	1998 Kenneth L. Pierce, U.S. Geological Survey, Emeritus
References	#2217 Pierce, K.L., 1974, Surficial geologic map of the Abiather Peak and parts of adjacent quadrangles, Yellowstone National Park, Wyoming and Montana: U.S. Geological Survey Miscellaneous Geologic Investigations I-646, scale 1:62,500. #1057 U.S. Geological Survey, 1972, Surficial geologic map of Yellowstone National Park: U.S. Geological Survey Miscellaneous Geologic Investigations I-710, 1 sheet, scale 1:125,000. #639 U.S. Geological Survey, 1972, Geologic map of Yellowstone National Park: U.S. Geological Survey Miscellaneous Geologic Investigations I-711, 1 sheet, scale 1:125,000.