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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.

Johns Valley fault (Class B) No. 2539

Last Review Date: 1999-10-01

Compiled in cooperation with the Utah Geological Survey

citation for this record: **Black, B.D., and Hecker, S., compilers, 1999, Fault number 2539, Johns Valley 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 02:53 PM.**

Synopsis	Poorly understood short late Pleistocene fault in Johns Valley in the southern Sevier Plateau. The main scarp has about 1 m of apparent displacement, but it parallels and may be part of a group of stream-terrace scarps. Conversely, it is roughly concordant with a bedrock fault and separates surfaces with similar characteristics, suggesting normal fault displacement. Owing to possible fluvial origin, we consider this to be a Class B structure pending further investigation.
Name comments	**Fault ID:** Refers to fault number 10-13 of Hecker (1993 #642).
County(s) and	

County(s) and State(s)	GARFIELD COUNTY, UTAH
Physiographic province(s)	COLORADO PLATEAUS
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Fault traces from 1:250,000-scale mapping of Anderson and Christenson (1989 #828).
Geologic setting	Short east-trending normal fault in western Johns Valley in the southern Sevier Plateau. The Sevier Plateau is one of seven distinct plateaus in the Southern High Plateaus, which are characterized by external bounding cliffs and internal alluvium-filled valleys often following faults or narrow grabens.
Length (km)	2 km.
Average strike	N81°E
Sense of movement	Normal
Dip Direction	S *Comments:* Dip direction shown incorrectly on previous map of Anderson and Christenson (1989 #828).
Paleoseismology studies	
Geomorphic expression	The main scarp (with ~1 m of apparent displacement) parallels and may be part of a group of stream-terrace scarps, but it is roughly concordant with a bedrock fault and separates surfaces with similar characteristics, suggesting normal fault displacement. Also, a short parallel scarp dies out on both ends in a manner characteristic of fault scarps. Mapping by Rowley and others (1987 #5007) does not show any Quaternary faults in the area, and more detailed work is needed to determine if the scarps are actually related to faulting. Thus, owing to a possible fluvial origin, we consider this to be a Class B structure pending further investigation.
Age of faulted surficial	Late Pleistocene

deposits	
Historic earthquake	
Most recent prehistoric deformation	late Quaternary (<130 ka) *Comments:* Based on scarp morphology and association with bedrock faulting.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr
Date and Compiler(s)	1999 Bill D. Black, Utah Geological Survey Suzanne Hecker, U.S. Geological Survey
References	#828 Anderson, R.E., and Christenson, G.E., 1989, Quaternary faults, folds, and selected volcanic features in the Cedar City 1° x 2° quadrangle, Utah: Utah Geological and Mineral Survey Miscellaneous Publication 89-6, 29 p., 1 pl., scale 1:250,000. #642 Hecker, S., 1993, Quaternary tectonics of Utah with emphasis on earthquake-hazard characterization: Utah Geological Survey Bulletin 127, 157 p., 6 pls., scale 1:500,000. #5007 Rowley, P.D., Hereford, R., and Williams, V.S., 1987, Geologic map of the Adams Head-Johns Valley area, southern Sevier Plateau, Garfield County, Utah: U.S. Geological Survey Miscellaneous Investigations Series Map I-1798, 1 sheet, scale 1:50,000.