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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.

Paunsaugunt fault (Class A) No. 2504

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 2504, Paunsaugunt 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 02:55 PM.**

Synopsis	Poorly understood Quaternary(?) fault along the western edge of the Aquarius Plateau.
Name comments	**Fault ID:** Refers to fault number 14-3 in Hecker (1993 #642).
County(s) and State(s)	GARFIELD COUNTY, UTAH PIUTE COUNTY, UTAH
Physiographic province(s)	COLORADO PLATEAUS
Reliability of	Good

location	Compiled at 1:250,000 scale. *Comments:* Mapped or discussed by Carpenter and others (1967 #4445), Rowley and others (1981 #4577), and Bowers (1991 #4576). Fault traces from 1:250,000 scale geologic mapping of Williams and Hackman (1971 #4578).
Geologic setting	Generally north-trending fault along the eastern side of Grass Valley west of the Aquarius Plateau, near the southeastern edge of the Basin and Range. Surficial geology of the area is dominated by Tertiary volcanic rock.
Length (km)	44 km.
Average strike	N6°E
Sense of movement	Normal
Dip Direction	W
Paleoseismology studies	
Geomorphic expression	Basalts dated at 5.0-6.4 Ma predate the main uplift of the Awapa and Aquarius Plateaus and are displaced vertically about 500 m across the Paunsaugunt fault. Preliminary examination of aerial photos by Hecker (1993 #642) revealed no scarps on range-front deposits, although Carpenter and others (1967 #4445) show the fault across Quaternary deposits at several locations. In the vicinity of Bryce Canyon National Park, differential erosion has produced weakly expressed, obsequent fault-line topography. However, low (~1-m-high) fault(?) scarps are preserved on remnants of Pleistocene pediments at two locations in this area, indicating possible Quaternary movement along this southern portion of the fault (Bowers, 1991 #4576).
Age of faulted surficial deposits	Quaternary(?)
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:*

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	#4576 Bowers, W.E., 1991, Geologic map of Bryce Canyon National Park and vicinity, southwestern Utah: U.S. Geological Survey Miscellaneous Investigations Map I-2108, scale 1:24,000. #4445 Carpenter, C.H., Robinson, G.B., and Bjorklund, L.J., 1967, Ground-water conditions and geologic reconnaissance of the upper Sevier River Basin, Utah: U.S. Geological Survey Water-Supply Paper 1836, 91 p. #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. #4577 Rowley, P.D., Steven, T.A., and Mehnert, H.H., 1981, Origin and structural implications of upper Miocene rhyolites in Kingston Canyon, Piute County, Utah: Geological Society of America Bulletin, v. 92, no. 8, p. 590-602. #4578 Williams, P.L., and Hackman, R.J., 1971, Geology, structure, and uranium deposits of the Salina quadrangle, Utah: U.S. Geological Survey Miscellaneous Investigations Map I-591, scale 1:250,000.