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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.

Cross Hollow Hills faults (Class A) No. 2524

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 2524, Cross Hollow Hills faults, 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 faults in the Cross Hollow Hills. The faults displace basalt having an age similar to that displaced by the North Hills fault [2522].
Name comments	**Fault ID:** Refers to fault number 10-9 in Hecker (1993 #642).
County(s) and State(s)	IRON COUNTY, UTAH
Physiographic province(s)	BASIN AND RANGE

Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Mapped by Averitt and Threet (1973 #4588), Earth Science Associates (1982 #4447), and Anderson and Christenson (1989 #828). Fault traces from 1:250,000-scale mapping of Anderson and Christenson (1989 #828).
Geologic setting	High-angle normal faults in the Cross Hollow Hills at the southern end of the Cedar City--Parowan monocline. The faults displace basalt similar in age to that in the North Hills to the south (i.e., early Quaternary).
Length (km)	5 km.
Average strike	N10°E
Sense of movement	Normal
Dip Direction	E; W
Paleoseismology studies	
Geomorphic expression	Faulted Quaternary basalts are similar to basalts in the nearby North Hills. Several short scarps represent displacements of less than about 10 m. Bedding attitudes in Quaternary basalt, particularly at the south end of the Cross Hollow Hills (Averitt and Threet, 1973 #4588), indicate that the fault may be related to a possible north-trending anticline with flank dips generally less than 10?.
Age of faulted surficial deposits	Quaternary
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Quaternary (early?) basalts are displaced, but it is unknown whether the faults were active during late Pleistocene time. However, Earth Science Associates (1982 #4447) considered that one fault strand had a meter of displacement in the late Pleistocene, based on a general assessment of soil

	carbonate development in faulted alluvium.
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. #4588 Averitt, P., and Threet, R.L., 1973, Geologic map of the Cedar City quadrangle, Iron County, Utah: U.S. Geological Survey Geologic quadrangle Map GQ-1120, scale 1:24,000. #4447 Earth Science Associates, 1982, Phase I report, seismic safety investigation of eight SCS dams in southwestern Utah: Technical report to U.S. Soil Conservation Service, Palo Alto, California, 2 volumes, variously paginated. #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.