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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.

Red Hills fault (Class A) No. 2532

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 2532, Red Hills 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 late Pleistocene fault along the eastern base of the Red Hills. Isolated short scarps of possible fault origin are on colluvium, and one short scarp is on late Pleistocene fan deposits at the southern end of the fault.
Name comments	**Fault ID:** Refers to fault number 10-19 of 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 and Anderson and Christenson (1989 #828) and Maldonado and Williams (1993 #4592). Fault trace from 1:250,000 scale mapping of Anderson and Christenson (1989 #828).
Geologic setting	Northeast-trending normal fault separating the Red Hills from Parowan Valley. Parowan Valley is at the southern edge of an area underlain by related extrusive Tertiary volcanic rocks once continuous from near Pioche, Nevada, to Marysvale, Utah, in Piute County. Some volcanic cover has been eroded to expose pre-existing topography of Paleozoic and Mesozoic sedimentary rocks.
Length (km)	14 km.
Average strike	N26°E
Sense of movement	Normal
Dip Direction	SE
Paleoseismology studies	
Geomorphic expression	Few alluvial scarps are present along the fault, chiefly because fan apices do not extend upstream across the fault. The southern part of the faulted range front is marked by a linear bedrock-alluvium contact and steep, active alluvial fans. The front is also characterized by steep triangular facets, indicating active uplift during at least late Pleistocene time (Anderson and Christenson, 1989 #828). Isolated short scarps of possible fault origin are on colluvium, and one (0.2-km-long scarp) is on late Pleistocene fan deposits at the southern end of the fault. Despite bedrock that is relatively nonresistant, range-front embayments are few, even along major drainages.
Age of faulted surficial deposits	Late Pleistocene alluvium and colluvium.
Historic earthquake	

Most recent prehistoric deformation	late Quaternary (<130 ka) *Comments:* Isolated short scarps are on colluvium and late Pleistocene fan deposits. The presence of Little Salt Lake and the broad, flat Parowan Valley suggests that subsidence of the basin accompanied uplift of the range during the late Pleistocene. V.S. Williams (USGS, written commun. to Suzanne Hecker, 1991) believes Holocene movement cannot be precluded on the fault.
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. #4592 Maldonado, F., and Williams, V.S., 1993, Geologic map of the Parowan Gap quadrangle, Iron County, Utah: U.S. Geological Survey Geologic quadrangle Map GQ-1712, scale 1:24,000.