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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.

Antelope Range fault (Class A) No. 2517

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 2517, Antelope Range 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 02:54 PM.**

Synopsis	Poorly understood middle to late Pleistocene fault along the western side of Antelope Range.
Name comments	**Fault ID:** Refers to fault number 10-11 in Hecker (1993 #642).
County(s) and State(s)	IRON COUNTY, UTAH
Physiographic province(s)	BASIN AND RANGE
Reliability of	Good

location	Compiled at 1:250,000 scale. *Comments:* Mapped by Ertec Western, Inc. (Schell, 1981 #4598), Shubat and Siders (1988 #4583), Anderson and Christenson (1989 #828), and Siders and others (1990 #4584). Fault traces from 1:250,000-scale mapping of Anderson and Christenson (1989 #828).
Geologic setting	North to northeast-trending normal fault in eastern Escalante Valley along the western side of Antelope Range. Escalante Valley is in an area of southwestern Utah that is underlain by extensive extrusive Tertiary volcanic rocks. In the mountains, volcanic rocks have been eroded to expose pre-existing Paleozoic and Mesozoic topography. Igneous rocks in the valley have been lowered by faulting and covered by alluvium and lake deposits.
Length (km)	25 km.
Average strike	N26°E
Sense of movement	Normal
Dip Direction	W; NW
Paleoseismology studies	
Geomorphic expression	Highly degraded discontinuous scarps, which are 20-30 m high and clearly represent multiple faulting events. Those scarps at the northern end of the range appear to be older than isolated scarps along the range front. A 2-m-high, east-facing scarp 5 km west of the Antelope Range may be the result of antithetic faulting.
Age of faulted surficial deposits	Middle to late Pleistocene alluvial deposits.
Historic earthquake	
Most recent prehistoric deformation	middle and late Quaternary (<750 ka) *Comments:* Approximate slope-height scarp measurements suggest a time of formation that is greater than the Bonneville shoreline (>16.8 ka).

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. #4598 Schell, B.A., 1981, MX siting investigation, faults and lineaments in the MX siting region, Nevada and Utah: Long Beach, California, report no. E-TR-54 for U.S. Air Force, volume I, 77p.; volume II, variously paginated, scale 1:250,000. #4583 Shubat, M.A., and Siders, M.A., 1988, Geologic map of the Silver Peak quadrangle, Iron County, Utah: Utah Geological and Mineral Survey Map 108, 13 p. pamphlet, scale 1:24,000. #4584 Siders, M.A., Rowley, P.D., Shubat, M.A., Christenson, G.E., and Galyardt, G.L., 1990, Geologic map of the Newcastle quadrangle, Iron County, Utah: U.S. Geological Survey Geologic quadrangle Map GQ-1690, scale 1:24,000.