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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.

Sevier fault (Class A) No. 2355

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 2355, Sevier 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 02:57 PM.**

Synopsis	Poorly understood Quaternary(?) fault along the western base of the Sevier Plateau. The fault comprises the northern half of the Sevier fault and is on-trend and south of the late Quaternary Annabella faults [2472]. The Sevier Plateau is in the southern high plateaus of south-central Utah, which are defined by external bounding cliffs and internal alluvium-filled valleys following.north-trending fault lines or grabens.
Name comments	Hecker (1993 #642) describes the Sevier fault as consisting of a northern [2355] and southern [2372] portion, which are separated by a 50-km-wide unfaulted gap. Based on this gap and differences in displacement style and age of most-recent movement, the

	northern and southern portions of the Sevier fault appear to be two simple faults rather than a sectioned fault. **Fault ID:** Refers to fault number 9-35 of Hecker (1993 #642).
County(s) and State(s)	PIUTE COUNTY, UTAH SEVIER COUNTY, UTAH
Physiographic province(s)	COLORADO PLATEAUS
Reliability of location	Poor Compiled at 1:50,000 scale. *Comments:* Mapped or discussed by Anderson and Miller (1979 #4494), Cunningham and others (1983 #4495), and Anderson and Barnhard (1992 #612). Mapping from Cunningham and others (1983 #4495).
Geologic setting	Range-front normal fault along the western side of the Sevier Plateau. The fault comprises the northern half of the Sevier fault and is on-trend and south of the late Quaternary Annabella faults [2472]. The Sevier Plateau is in the southern high plateaus of south-central Utah, which are defined by external bounding cliffs and internal alluvium-filled valleys following north-trending fault lines or grabens.
Length (km)	42 km.
Average strike	N3°E
Sense of movement	Normal *Comments:* Minor strike-slip component
Dip	70-80° *Comments:* 70?W dip measured in Oligocene andesite about 7 km south of Monroe; 80?W dip determined from geophysical and drillhole data. See Anderson and Barnhard (1992 #612) for a detailed analysis of fault orientations.
Paleoseismology studies	
Geomorphic	Range-front escarpment. Geophysical data indicate the fault is

expression	comprised of a series of step faults that appear to be predominantly dip slip, but with a minor component of strike-slip displacement.
Age of faulted surficial deposits	Tertiary
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* The timing for most recent movement is based on association with Quaternary deformation along the Annabella faults [2472] to the north.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Poor geomorphic expression indicates a low slip rate.
Date and Compiler(s)	1999 Bill D. Black, Utah Geological Survey Suzanne Hecker, U.S. Geological Survey
References	#4494 Anderson, L.W., and Miller, D.G., 1979, Quaternary fault map of Utah: Long Beach, California, Fugro, Inc, 35 p. pamphlet, scale 1:500,000. #612 Anderson, R.E., and Barnhard, T.P., 1992, Neotectonic framework of the central Sevier Valley area, Utah, and its relationship to seismicity, *in* Gori, P.L., and Hays, W.W., eds., Assessment of regional earthquake hazards and risk along the Wasatch front, Utah: U.S. Geological Survey Professional Paper 1500, p. F1-F47. #4495 Cunningham, C.G., Steven, T.A., Rowley, P.D., Glassgold, L.B., and Anderson, J.J., 1983, Geologic map of the Tushar Mountains and adjoining areas, Marysvale volcanic field, Utah: U.S. Geological Survey Miscellaneous Investigations Map I-1430, scale 1:50,000. #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.