

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](#).

Shay graben faults (Class B) No. 2513

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 2513, Shay graben 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 suspected Quaternary faults that bound a graben on the northern side of Shay Mountain in eastern Utah. Because of their possible non-seismogenic origin, we considered these features to be Class B structures.
Name comments	Fault ID: Refers to fault number 19-1 in Hecker (1993 #642).
County(s) and State(s)	SAN JUAN COUNTY, UTAH
Physiographic province(s)	COLORADO PLATEAUS

Reliability of location	Good Compiled at 1:170,000 scale. <i>Comments:</i> Mapped by Woodward-Clyde Consultants (1982 #5025). Fault traces from 1:170,000- scale mapping of Woodward-Clyde Consultants (1982 #5025).
Geologic setting	Northeast-trending graben-bounding faults along the northern side of Shay Mountain in the Paradox Basin of eastern Utah.
Length (km)	40 km.
Average strike	N66°E
Sense of movement	Normal
Dip Direction	N; S
Paleoseismology studies	
Geomorphic expression	The faults form scarps that bound and define a northeast-trending graben. The north Shay fault has generally poorer surface expression than the south fault and is less likely to have had Quaternary displacement. The south Shay fault exhibits dip-slip displacement totaling less than 100 m and is regarded as a possible seismotectonic feature. Because of their possible non-seismogenic origin, we considered these features to be Class B structures.
Age of faulted surficial deposits	Quaternary pediment gravels
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) <i>Comments:</i> Based on escarpment morphology and estimated age of displaced pediment surfaces.
Recurrence interval	
Slip rate	

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	#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. #5025 Woodward-Clyde Consultants, 1982, Geologic characterization report for the Paradox Basin study region, Utah study areas, volume II, Gibson Dome: Technical report to Battelle Memorial Institute, Office of Nuclear Waste Isolation, under Contract ONWI-290, variously paginated, scale 1:340,000.

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