

# 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](#).

## Castle Valley faults (Class B) No. 2477

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 2477, Castle Valley 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 02:54 PM.

<b>Synopsis</b>	Poorly understood suspected Quaternary faults bounding Castle Valley in eastern Utah. As with many other faults in the region, the Castle Valley faults are probably related to salt dissolution, but may have a tectonic component, thus we classify them as a Class B feature.
<b>Name comments</b>	<b>Fault ID:</b> Refers to fault number 18-4 of Hecker (1993 #642).
<b>County(s) and State(s)</b>	GRAND COUNTY, UTAH
<b>Physiographic</b>	

<b>Physiographic province(s)</b>	COLORADO PLATEAUS
<b>Reliability of location</b>	Good Compiled at 1:250,000 scale.  <i>Comments:</i> Mapped at 1:24,000 scale by Williams (1964 #2789) and Doelling and Ross (1998 #4979). Fault traces from geologic mapping of Williams (1964 #2789).
<b>Geologic setting</b>	Zone of generally northeast-trending faulting bounding Castle Valley in eastern Utah.
<b>Length (km)</b>	12 km.
<b>Average strike</b>	N°50W
<b>Sense of movement</b>	Normal
<b>Dip Direction</b>	NE; SW
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	The faults bound Castle Valley and were formed by salt dissolution and episodic collapse from Pliocene to late Pleistocene or early Holocene(?) time. Unconformable inset relations of alluvial deposits in the upper part of Castle Valley, and apparent conformable deposits of similar alluvium in the lower valley end, suggest a northwestward temporal progression of collapse away from the northern La Sal Mountains.
<b>Age of faulted surficial deposits</b>	Quaternary alluvial deposits (unconformable relations, indirect evidence of faulting).
<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	undifferentiated Quaternary (<1.6 Ma)  <i>Comments:</i> Geomorphic position and surface characteristics of the faults suggest a possible Quaternary age.
<b>Recurrence interval</b>	
<b>Slip rate</b>	

<b>Slip-rate category</b>	Less than 0.2 mm/yr
<b>Date and Compiler(s)</b>	1999 Bill D. Black, Utah Geological Survey Suzanne Hecker, U.S. Geological Survey
<b>References</b>	#4979 Doelling, H.H., and Ross, M.L., 1998, Geologic map of the Big Bend quadrangle, Grand County, Utah: Utah Geological Survey Map 171, 29 p. pamphlet, 2 sheets, scale 1:24,000.  #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.  #2789 Williams, P.L., 1964, Geology, structure, and uranium deposits of the Moab quadrangle, Colorado and Utah: U.S. Geological Survey Miscellaneous Geologic Investigations I-360.

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