

# 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](#).

## unnamed faults at Clay Creek (Class A) No. 2283

Last Review Date: 1997-09-30

## Compiled in cooperation with the Colorado Geological Survey

*citation for this record:* Widmann, B.L., compiler, 1997, Fault number 2283, unnamed faults at Clay Creek, 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 03:02 PM.

### Synopsis

These faults are on the southwest margin of the Uncompahgre Uplift. Based on the timing of abandonment of Unaweep Canyon, Cater (1966 #2671) indicated uplift of the Uncompahgre Plateau began in the mid-Pliocene and continued into the Pleistocene, resulting in as much as 640 m of differential uplift. Despite the lack of evidence of faulted Quaternary deposits along this unnamed fault, it has been classified as a Quaternary fault (Kirkham and Rogers, 1981 #792; Colman, 1985 #1953; Lettis and others, 1996 #4453), and no references exist that refute this age assignment.

<b>Name comments</b>	<p>This unnamed group of faults consists of two northwest-trending faults on the southwest margin of the Uncompahgre Uplift. The faults are north of Highway 145 and San Miguel Canyon.</p> <p><b>Fault ID:</b> Fault 87 in Kirkham and Rogers (1981 #792) and fault number Q33 of Widman and others (1998 #3441).</p>
<b>County(s) and State(s)</b>	MONTROSE COUNTY, COLORADO
<b>Physiographic province(s)</b>	COLORADO PLATEAUS
<b>Reliability of location</b>	<p>Good Compiled at 1:250,000 scale.</p> <p><i>Comments:</i> The fault was mapped at a scale of 1:250,000 by Williams (1964 #2789) and Lettis and others (1996 #4453). The trace used herein is from Williams (1964 #2789).</p>
<b>Geologic setting</b>	The faults lie on the southwest flank of the Uncompahgre Uplift. The Uncompahgre Uplift is a northwest-trending, east-tilted fault block. These faults are high-angle normal faults that are down to the southwest.
<b>Length (km)</b>	9 km.
<b>Average strike</b>	N46°W
<b>Sense of movement</b>	<p>Normal</p> <p><i>Comments:</i> Kirkham and Rogers (1981 #792) indicated normal movement on one of these faults.</p>
<b>Dip Direction</b>	SW
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	Geomorphic indicators of youthful faulting have not been reported.
<b>Age of faulted surficial deposits</b>	The Cretaceous Mancos Shale is the youngest deposit offset by the faults; there are no Quaternary deposits mapped along the trace of the faults (Williams, 1964 #2789). The faults lie entirely within the Jurassic Brushy Basin Shale Member of the Morrison

	Formation and the Cretaceous Dakota Sandstone, Burro Canyon Formation and Mancos Shale.
<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	undifferentiated Quaternary (<1.6 Ma) <i>Comments:</i> Despite a lack of evidence for offset in Quaternary deposits, faults associated with the Uncompahgre Uplift are often considered to be Quaternary movement. There is no other published evidence that Quaternary deposits are offset by this structure. Despite the lack of evidence of faulted Quaternary deposits along this unnamed fault, it has been classified as a Quaternary fault (Kirkham and Rogers, 1981 #792; Colman, 1985 #1953; Lettis and others, 1996 #4453), and no references have been published that refute this age assignment. Kirkham and Rogers (1981 #792) showed only one Quaternary fault in this area. Lettis and others (1996 #4453) indicated Quaternary movement on two faults in this area.
<b>Recurrence interval</b>	
<b>Slip-rate category</b>	Less than 0.2 mm/yr <i>Comments:</i> Widmann and others (1998 #3441) placed these faults within the <0.2 mm/yr slip-rate category based on calculations of an overall uplift rate of 0.4 m/1000 yr since 1.8 Ma for the Uncompahgre Uplift (Perry, 1989 #2731).
<b>Date and Compiler(s)</b>	1997 Beth L. Widmann, Colorado Geological Survey
<b>References</b>	#2671 Cater, F.W., Jr., 1966, Age of the Uncompahgre Uplift and Unaweep Canyon, west-central Colorado: U.S. Geological Survey Professional Paper 550-C, 86-92 p.  #1953 Colman, S.M., 1985, Map showing tectonic features of late Cenozoic origin in Colorado: U.S. Geological Survey Miscellaneous Geologic Investigations I-1566, 1 sheet, scale 1:1,000,000.  #792 Kirkham, R.M., and Rogers, W.P., 1981, Earthquake potential in Colorado: Colorado Geological Survey Bulletin 43, 171 p., 3 pls.

#4453 Lettis, W., Noller, J., Wong, I., Ake, J., Vetter, U., and LaForge, R., 1996, Draft report, Seismotectonic evaluation of Colorado River storage project-Crystal, Morrow Point, Blue Mesa dams, Smith Fork project-Crawford dam, west-central Colorado: Technical report to U.S. Bureau of Reclamation, Denver, Colorado, 177 p.

#2731 Perry, T.W.V., 1989, Tectonic inference and computer simulation in stream longitudinal profile evolution, Unaweep Canyon and vicinity, Colorado and Utah: Geological Society of America Abstracts with Programs, v. 21, no. 6, p. 269.

#3441 Widmann, B.L., Kirkham, R.M., and Rogers, W.P., 1998, Preliminary Quaternary fault and fold map and database of Colorado: Colorado Geological Survey Open-File Report 98-8, 331 p., 1 pl., 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.

[Questions or comments?](#)

[Facebook](#) [Twitter](#) [Google](#) [Email](#)

[Hazards](#)

[Design](#) [Ground Motions](#) [Seismic Hazard Maps & Site-Specific Data](#) [Faults](#) [Scenarios](#)

[Earthquakes](#) [Hazards](#) [Data](#) [Education](#) [Monitoring](#) [Research](#)

[Home](#) [About Us](#) [Contacts](#) [Legal](#)