

# 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 fault of Lost Horse Basin (Class A) No. 2264

Last Review Date: 1997-06-12

Compiled in cooperation with the Utah  
Geological Survey and the Colorado Geological  
Survey

*citation for this record:* Widmann, B.L., compiler, 1997,  
Fault number 2264, unnamed fault of Lost Horse Basin, 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 03:01 PM.

<b>Synopsis</b>	This fault lies on the southeast margin of the Uncompahgre Uplift near the Colorado/Utah border. Williams (1964 #2789) mapped Quaternary deposits as both concealing the fault and as abutting the fault. 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
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	(e.g., Kirkham and Rogers, 1981 #792; Colman, 1985 #1953), and no references have been published that refute this age assignment.
<b>Name comments</b>	<p>This unnamed northwest-trending fault extends from the Utah/Colorado border southeast into Colorado through Lost Horse Basin on the southwest flank of the Uncompahgre Uplift. Lost Horse Basin lies at the northwest end of the Ute Creek graben and forms part of its southwest margin. Although not mapped in Utah, the fault is probably present for some distance west of the Colorado border.</p> <p><b>Fault ID:</b> Fault 77 in Kirkham and Rogers (1981 #792) and fault number Q14 of Widman and others (1998 #3441).</p>
<b>County(s) and State(s)</b>	MESA 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).</p>
<b>Geologic setting</b>	<p>This fault lies on the southwest margin of the Uncompahgre Uplift near Lost Horse Basin and the Utah/Colorado border. The Uncompahgre Uplift is a northwest-trending, east-tilted fault block. This fault is high angle and down to the northeast, contrary to most of faults in the area (down to the southwest). The fault lies in a tectonically weakened area above the ancestral Uncompahgre fault zone (Stone, 1977 #2749).</p>
<b>Length (km)</b>	8 km.
<b>Average strike</b>	N36°W
<b>Sense of movement</b>	<p>Normal</p> <p><i>Comments:</i> Heyman (1983 #2697) and Kirkham and Rogers (1981 #792) showed this fault as normal.</p>
<b>Dip Direction</b>	NE

<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	Geomorphic indicators of youthful faulting have not been reported.
<b>Age of faulted surficial deposits</b>	Williams (1964 #2789) mapped Quaternary deposits as both concealing the fault and as abutting against the fault at its northern extent. The Jurassic Summerville Formation is the youngest rocks mapped as offset by the fault (Williams, 1964 #2789) . The fault lies primarily in Jurassic and Triassic bedrock with about 15 percent of the fault extending adjacent to or beneath Quaternary deposits.
<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	undifferentiated Quaternary (<1.6 Ma) <i>Comments:</i> Offset of Quaternary deposits is inconclusive since Williams (1964 #2789) showed Quaternary deposits as abutting and concealing the fault. However, faults associated with the Uncompahgre Uplift are often considered to have Quaternary movement. 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. There is no other published evidence that Quaternary deposits are offset by this structure. Despite the lack of evidence for Quaternary movement, this fault has been classified as a Quaternary fault (e.g., Kirkham and Rogers, 1981 #792; Colman, 1985 #1953), and no references have been published that refute this age assignment.
<b>Recurrence interval</b>	
<b>Slip-rate category</b>	Less than 0.2 mm/yr <i>Comments:</i> Based on calculations of an overall uplift rate of 0.4 mm/yr since 1.8 Ma for the Uncompahgre Uplift (Perry, 1989 #2731), Widmann and others (1998 #3441) placed this fault in the <0.2 mm/yr slip rate category.
<b>Date and Compiler(s)</b>	1997 Beth L. Widmann, Colorado Geological Survey

## References

#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.

#2697 Heyman, O.G., 1983, Distribution and structural geometry of faults and folds along the northwestern Uncompahgre Uplift, western Colorado and eastern Utah, *in* Averett, W., ed., Northern Paradox Basin—Uncompahgre Uplift: Grand Junction Geological Society, p. 45-57.

#792 Kirkham, R.M., and Rogers, W.P., 1981, Earthquake potential in Colorado: Colorado Geological Survey Bulletin 43, 171 p., 3 pls.

#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.

#2749 Stone, D.S., 1977, Tectonic history of the Uncompahgre Uplift, *in* Veal, H.K., ed., Exploration Frontiers of the central and southern Rockies: Rocky Mountain Association of Geologists, 1977 Field Conference Guidebook, p. 23-30.

#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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