

# 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 east of Whitewater (Class A) No. 2257

Last Review Date: 1997-06-11

### Compiled in cooperation with the Colorado Geological Survey

*citation for this record:* Widmann, B.L., compiler, 1997, Fault number 2257, unnamed fault east of Whitewater, 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 unnamed fault lies on the northeast margin of the Uncompahgre Uplift. It was mapped as a Quaternary fault by Kirkham and Rogers (1981 #792) because of its structural relationship to other faults on the northeast margin of the Uncompahgre Uplift, which is postulated as having Quaternary movement. Colman (1985 #1953) also mapped this as a Quaternary fault, but cited Kirkham and Rogers (1981 #792) for this age assignment.
<b>Name</b>	This unnamed northwest-trending fault lies on the northeast

<b>comments</b>	margin of the Uncompahgre Uplift west of the town of Whitewater. The fault is perpendicular to and between Ladder and Bangs Canyons.  <b>Fault ID:</b> Fault 69 in Kirkham and Rogers (1981 #792) and fault number Q7 of Widman and others (1998 #3441).
<b>County(s) and State(s)</b>	MESA COUNTY, COLORADO
<b>Physiographic province(s)</b>	COLORADO PLATEAUS
<b>Reliability of location</b>	Good Compiled at 1:250,000 scale.  <i>Comments:</i> Williams (1964 #2789) mapped the fault at 1:250,000 scale.
<b>Geologic setting</b>	This fault is part of the northeast margin of the Uncompahgre Uplift south of Grand Junction. The Uncompahgre Uplift is a northwest-trending, east-tilted fault block. This is a high-angle normal fault that is down to the northeast. This fault lies in a tectonically weakened area above the ancestral Garmesa and Douglass Creek fault zones (Stone, 1977 #2749).
<b>Length (km)</b>	2 km.
<b>Average strike</b>	N39°W
<b>Sense of movement</b>	Normal  <i>Comments:</i> Kirkham and Rogers (1981 #792) described this fault as normal.
<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>	The fault lies entirely in lower Mesozoic bedrock (Lohman, 1963 #2718).

<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	undifferentiated Quaternary (<1.6 Ma)  <i>Comments:</i> Kirkham and Rogers (1981 #792) mapped this as a Quaternary fault based on its structural relationship to other faults along the northeast margin of the Uncompahgre Uplift that are considered to be Quaternary. Colman (1985 #1953) cited Kirkham and Rogers (1981 #792) for his Quaternary age assignment to the fault. There is not any published evidence of Quaternary deposits being offset by this fault. However, faults associated with the Uncompahgre Uplift are often considered to have experienced Quaternary movement. Evidence of Quaternary movement for several of the faults associated with the Uncompahgre Uplift was cited in Witkind (1976 #2792), based on personal communication with Fred Cater. Based on the timing of abandonment of Unaweep Canyon by the Gunnison River, 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.
<b>Recurrence interval</b>	
<b>Slip-rate category</b>	Less than 0.2 mm/yr  <i>Comments:</i> Widman and others (1998 #3441) placed this fault in the <0.2 mm/yr slip-rate category by assuming that it is related to the Neogene Uncompahgre Uplift, which has 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.

#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.

#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.

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