

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](#).

Cactus Park fault (Class A) No. 2258

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 2258, Cactus Park fault, 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 03:00 PM.

Synopsis

The Cactus Park fault lies on the northeast margin of the Uncompahgre Uplift, southeast of Grand Junction. Lohman (1963 #2718) showed Quaternary alluvial deposits as offset by the fault. Later mapping by Lohman (1965 #2719) however, showed the fault as being concealed beneath Quaternary alluvium. Evidence for Quaternary movement on the fault 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. Despite the lack of evidence of faulted Quaternary deposits

	<p>along the Cactus Park fault, it has been classified as a Quaternary fault (e.g. Howard and others, 1978 #312; Kirkham and Rogers, 1981 #792; Colman, 1985 #1953), and no references have been published that refute this age assignment.</p>
<p>Name comments</p>	<p>The Cactus Park fault is a northwest-trending fault on the northeast margin of the Uncompahgre Uplift southeast of Grand Junction. The fault extends from near the south end of the Bangs Canyon fault southeastward to the east side of Highway 141 in Unawep Canyon. The west end of the fault dies out and becomes the North East Creek monocline which connects to the southeast end of the Bangs Canyon fault [2256]. Witkind (1976 #2792) mapped faults 2254-2256, 2258, 2260, and 2261 (numbers for this database) as a single fault that he referred to as the Glade Park fault [2254]. More detailed mapping by Lohman (1963 #2718) revealed that the faults are not connected at the surface. He labeled fault 2258 as the Cactus Park fault.</p> <p>Fault ID: Fault 70 in Kirkham and Rogers (1981 #792), fault 282 in Witkind (1976 #2792), and fault number Q8 of Widman and others (1998 #3441).</p>
<p>County(s) and State(s)</p>	<p>MESA COUNTY, COLORADO</p>
<p>Physiographic province(s)</p>	<p>COLORADO PLATEAUS</p>
<p>Reliability of location</p>	<p>Good Compiled at 1:250,000 scale.</p> <p><i>Comments:</i> This fault was mapped at a scale of 1:31,680 by Lohman (1963 #2718; 1965 #2719) and 1:250,000 by Williams (1964 #2789). The trace used herein is from Lohman (1965 #2719), recompiled at 1:250,000 scale.</p>
<p>Geologic setting</p>	<p>The Cactus Park 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 fault is a high-angle normal fault that is down to the northeast. It lies in a tectonically weakened area above the ancestral Garmesa and Douglass Creek fault zones (Stone, 1977 #2749).</p>
<p>Length (km)</p>	<p>2 km.</p>

Average strike	N72°W
Sense of movement	Normal <i>Comments:</i> Kirkham and Rogers (1981 #792) described this fault as normal.
Dip Direction	N
Paleoseismology studies	
Geomorphic expression	Geomorphic indicators of youthful faulting have not been reported.
Age of faulted surficial deposits	Quaternary alluvial deposits were shown as faulted by Lohman (1963 #2718), but later mapping by Lohman (1965 #2719) showed the fault as concealed by Quaternary alluvial deposits. Holocene deposits are not offset by the fault according to Kirkham and Rogers (1981 #792). The fault lies almost entirely in lower Mesozoic bedrock with less than 5 percent of the fault extending through Quaternary deposits.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) <i>Comments:</i> Lohman (1963 #2718) showed Quaternary alluvial deposits offset by the Cactus Park fault, but the fault was mapped by Lohman (1965 #2719) as concealed by Quaternary deposits. Faults associated with the Uncompahgre Uplift, however, are often considered to have experienced Quaternary movement. Evidence for Quaternary movement on the fault 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. Other than Lohman (1963 #2718), there is no other published evidence that Quaternary deposits are offset by this structure. Despite the lack of evidence for Quaternary movement, the Cactus Park fault has been classified as a Quaternary fault (e.g. Howard and others, 1978 #312; Kirkham and Rogers, 1981 #792; Colman, 1985 #1953), and no references have been published that refute this age assignment.

Recurrence interval	
Slip-rate category	<p>Less than 0.2 mm/yr</p> <p><i>Comments:</i> Widmann and others (1998 #3441) placed this structure 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).</p>
Date and Compiler(s)	<p>1997</p> <p>Beth L. Widmann, Colorado Geological Survey</p>
References	<p>#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.</p> <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.</p> <p>#312 Howard, K.A., Aaron, J.M., Brabb, E.E., Brock, M.R., Gower, H.D., Hunt, S.J., Milton, D.J., Muehlberger, W.R., Nakata, J.K., Plafker, G., Prowell, D.C., Wallace, R.E., and Witkind, I.J., 1978, Preliminary map of young faults in the United States as a guide to possible fault activity: U.S. Geological Survey Miscellaneous Field Studies Map MF-916, 2 sheets, scale 1:5,000,000.</p> <p>#792 Kirkham, R.M., and Rogers, W.P., 1981, Earthquake potential in Colorado: Colorado Geological Survey Bulletin 43, 171 p., 3 pls.</p> <p>#2718 Lohman, S.W., 1963, Geologic map of Grand Junction area, Colorado: U.S. Geological Survey Miscellaneous Geologic Investigations I-404.</p> <p>#2719 Lohman, S.W., 1965, Geology and artesian water supply of the Grand Junction area, Colorado: U.S. Geological Survey Professional Paper 451, 149 p.</p> <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</p>

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#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.

#2792 Witkind, I.J., 1976, Preliminary map showing known and suspected active faults in Colorado: U.S. Geological Survey Open-File Report 76-154.

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