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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 at Little Dominguez Creek (Class A) No. 2261

Last Review Date: 1997-09-04

Compiled in cooperation with the Colorado Geological Survey

citation for this record: **Widmann, B.L., compiler, 1997, Fault number 2261, unnamed fault at Little Dominguez 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 03:01 PM.**

Synopsis	This fault lies on the northeast margin of the Uncompahgre Uplift southeast of Grand Junction. Evidence for Quaternary movement on this fault was cited in Witkind (1976 #2792) based on personal communication with Fred Cater. 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 (Howard and others, 1978 #312;

	Kirkham and Rogers, 1981 #792; Colman, 1985 #1953; Lettis and others, 1996), and no references have been published that refute this age assignment.
Name comments	This northwest-trending fault lies on the northeast margin of the Uncompahgre Uplift southeast of Grand Junction. The fault crosses and is perpendicular to Little Dominguez Creek and extends southeast into Escalante Creek. Witkind (1976 #2792) mapped faults 2254-2256, 2258, 2260, and 2261 (numbers for this database) as a single fault which he referred to as the Glade Park fault. Other references (e.g. Williams, 1964 #2789; Kirkham and Rogers, 1981 #792; Lettis and others, 1996) showed that the faults are not connected at the surface. **Fault ID:** Fault 73 in Kirkham and Rogers (1981 #792), fault 282 in Witkind (1976 #2792), and fault number Q11 of Widman and others (1998 #3441).
County(s) and State(s)	DELTA COUNTY, COLORADO MESA COUNTY, COLORADO
Physiographic province(s)	COLORADO PLATEAUS
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* The fault was mapped at 1:250,000 by Williams (1964 #2789) and Lettis and others (1996). The trace used herein is from Williams (1964 #2789).
Geologic setting	This fault is part of the northeast margin of the Uncompahgre Uplift southeast 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 southwest. Witkind (1976 #2792) suggested throw is down to the northeast but showed faults 2254-2256, 2258, 2260, and 2261 (this database) as a single fault. Parts of this fault complex are in fact down to the northeast (faults 2256 and 2258), but the remainder of the faults, including this unnamed fault, are down to the southwest (Williams, 1964 #2789; Kirkham and Rogers, 1981 #792; Colman, 1985 #1953; Lettis and others, 1996). Throw on the fault is opposite to local topography. The fault lies in a tectonically weakened area above the ancestral Garmesa and Douglass Creek fault zones (Stone, 1977 #2749).

Length (km)	14 km.
Average strike	N57°W
Sense of movement	Normal *Comments:* Kirkham and Rogers (1981 #792) listed this fault as normal.
Dip Direction	SW
Paleoseismology studies	
Geomorphic expression	Geomorphic indicators of youthful faulting have not been reported.
Age of faulted surficial deposits	The Cretaceous Dakota Sandstone and Burro Canyon Formation are the youngest deposits offset by this fault. Quaternary deposits are absent in this area, and the fault lies entirely within Precambrian to lower Mesozoic bedrock (Williams, 1964 #2789).
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Despite a lack of evidence for offset in Quaternary deposits, faults associated with the Uncompahgre Uplift are often considered to have experienced Quaternary movement. Evidence for Quaternary movement on this fault was cited in Witkind (1976 #2792) based on personal communication with Fred Cater. There is no other published evidence that Quaternary deposits are offset by this structure. 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 for Quaternary movement, this fault has been classified as a Quaternary fault (e.g. Howard and others, 1978 #312; Kirkham and Rogers, 1981 #792; Colman, 1985 #1953; Lettis and others, 1996), and no references have been published that refute this age assignment.
Recurrence interval	

Slip-rate category	Less than 0.2 mm/yr *Comments:* 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).
Date and Compiler(s)	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. #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. #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. #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.