

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](#).

Coal Mine Canyon fault zone (Class A) No. 1562

Last Review Date: 1998-10-14

citation for this record: Sawyer, T.L., and Oswald, J.A., compilers, 1998, Fault number 1562, Coal Mine Canyon fault zone, 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 02:35 PM.

Synopsis	This group of short, parallel normal faults crosses the piedmont slope along the east flank of the Adobe Range and locally bounds the range front from The Buttes southward to 41° N. latitude. The fault zone is marked by piedmont scarps on early to late Pleistocene alluvium and juxtaposes Quaternary alluvium against bedrock at the range front. Reconnaissance photogeologic mapping of fault-related features is the source of data. Trench investigations and studies of scarp morphology have not been conducted along the fault.
Name comments	Refers to faults mapped by Dohrenwend and others (1991 #290); named the Coal Mine Canyon fault zone by dePolo (1998 #2845). The faults extend along east side of the Adobe Range east of The Buttes southward to just south of 41° N latitude. Its presence at

	<p>the boundary between maps suggests that it should continue farther into the Elko quadrangle, but no southern extension is shown by Dohrenwend and others (1991 #286).</p> <p>Fault ID: Referred to as fault number WE3 (Coal Mine Canyon fault zone) by dePolo (1998 #2845).</p>
County(s) and State(s)	ELKO COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	<p>Good Compiled at 1:100,000 scale.</p> <p><i>Comments:</i> Location based on 1:250,000-scale maps of Dohrenwend and others (1991 #290) and Slemmons (1964, unpublished Wells 1? X 2? sheet). Mapping by Dohrenwend and others (1991 #290) based on photogeologic analysis of 1:58,000-nominal-scale color-infrared photography transferred directly to 1:100,000-scale topographic quadrangle maps enlarged to scale of the photographs. Mapping by Slemmons (1964, unpublished Wells 1? X 2? sheet) is based on analysis of 1:60,000-scale AMS photography transferred to mylar overlay on a 1:250,000-scale topographic map using proportional dividers.</p>
Geologic setting	<p>This group of short, parallel normal faults crosses the eastern piedmont slope of the Adobe Range and locally bounds the range front from The Buttes southward to 41° N latitude. The fault zone forms piedmont scarps on early to late Pleistocene alluvium and juxtaposes Quaternary alluvium against bedrock at range front (Dohrenwend and others, 1991 #290).</p>
Length (km)	11 km.
Average strike	N15°E
Sense of movement	<p>Normal</p> <p><i>Comments:</i> (Dohrenwend and others, 1991 #290)</p>
Dip Direction	E; W
Paleoseismology studies	

Geomorphic expression	The fault zone is expressed as scarps on early to late Pleistocene piedmont-slope deposits and by Quaternary alluvium juxtaposed against bedrock at the range front (Dohrenwend and others, 1991 #290).
Age of faulted surficial deposits	Pleistocene. The fault displaces alluvium interpreted from photogeologic mapping to be Pleistocene in age (Slemmons, 1964, unpublished Wells 1? X 2? sheet; Dohrenwend and others, 1991 #290).
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) <i>Comments:</i> The timing of most recent event is not well constrained and the two map sources differ. Slemmons (1966, unpublished Wells 1? X 2? sheet) shows the northernmost scarps as being late Quaternary in age. Dohrenwend and others (1991 #290) do not include them on their map, and furthermore assign an undifferentiated Pleistocene age to the rest of the faults. The assigned age category is based on the sole published source.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr <i>Comments:</i> No detailed data exists to determine slip rates for this fault. dePolo (1998 #2845) assigned a reconnaissance vertical slip rate of 0.01 mm/yr for the fault based on the presence of scarps on alluvium and the absence of basal facets. The late Quaternary characteristics of this fault (overall geomorphic expression, continuity of scarps, age of faulted deposits, etc.) support a low slip rate. Accordingly, the less than 0.2 mm/yr slip-rate category has been assigned to this fault.
Date and Compiler(s)	1998 Thomas L. Sawyer, Piedmont Geosciences, Inc. John A. Oswald, Piedmont Geosciences, Inc.
References	#2845 dePolo, C.M., 1998, A reconnaissance technique for estimating the slip rate of normal-slip faults in the Great Basin, and application to faults in Nevada, U.S.A.: Reno, University of Nevada, unpublished Ph.D. dissertation, 199 p. #290 Dohrenwend, J.C., McKittrick, M.A., and Moring, B.C.,

1991, Reconnaissance photogeologic map of young faults in the Wells 1° by 2° quadrangle, Nevada, Utah, and Idaho: U.S. Geological Survey Miscellaneous Field Studies Map MF-2184, 1 sheet, scale 1:250,000.

#286 Dohrenwend, J.C., Schell, B.A., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the Elko 1° by 2° quadrangle, Nevada and Utah: U.S. Geological Survey Miscellaneous Field Studies Map MF-2179, 1 sheet, scale 1:250,000.

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