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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 faults southeast Pine Forest Range (Class A) No. 1492

Last Review Date: 1998-07-19

citation for this record: **Sawyer, T.L., compiler, 1998, Fault number 1492, unnamed faults southeast Pine Forest Range, 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 02:50 PM.**

Synopsis	This group of subparallel to left-stepping faults appears to form a zone that has range-bounding normal faults along the southeast front of the southern Pine Forest Range and piedmont faults near Tipperary Mine and southeast of Duffer Peak. A few range-front faults near Battle Creek and north of Tipperary Mine are marked by short scarp on piedmont-slope deposits. Reconnaissance photogeologic mapping of the fault zone is the source of data. Trench investigations and detailed studies of scarp morphology have not been conducted.
Name comments	Refers to faults mapped by Willden (1964 #3002), Slemmons (1966, unpublished Vya 1? X 2? sheet), and Dohrenwend and Moring (1991 #281) along the southeast front and within the southern Pine Forest Range, from Battle Creek northeast to the

	west flank of Duffer Peak at Big Creek, and faults in the northernmost Black Rock Range.
County(s) and State(s)	HUMBOLDT COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Fault locations based on 1:250,000-scale maps of Dohrenwend and Moring (1991 #281) and Slemmons (1966, unpublished Vya 1? X 2? sheet); Dohrenwend and Moring (1991 #281) mapped from 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. Slemmons (1966, unpublished Vya 1? X 2? sheet) mapped from photogeologic analysis of 1:60,000-scale AMS photography transferred to mylar overlaid onto a 1:250,000-scale topographic map using proportional dividers.
Geologic setting	This group of subparallel to left-stepping faults appears to form a zone that has range-bounding normal faults along the southeast front of the southern Pine Forest Range, piedmont faults near Tipperary Mine and southeast of Duffer Peak. The intermontane faults in the northernmost Black Rock Range and southern Pine Forest Range shown by Dohrenwend and Moring (1991 #281) are not included here.
Length (km)	40 km.
Average strike	N31°E
Sense of movement	Normal *Comments:* Normal movement shown on some faults (Slemmons, 1966, unpublished Vya 1? X 2? sheet; Dohrenwend and Moring, 1991 #281)
Dip Direction	SE
Paleoseismology studies	
Geomorphic	Faults are expressed by a locally abrupt but dissected front of the

expression	Pine Forest Range and a few short scarps on upper piedmont-slope deposits near Battle Creek and north of Tipperary Mine (Slemmons, 1966, unpublished Vya 1? X 2? sheet; Dohrenwend and Moring, 1991 #281).
Age of faulted surficial deposits	latest Quaternary; late(?) Pleistocene; Quaternary. Reconnaissance photogeologic and geologic mapping indicate that Quaternary alluvial deposits are faulted along the front and within the northern Black Rock Range and southern Pine Forest Range, and possible late Pleistocene to latest Quaternary piedmont-slope deposits are offset north of Tipperary Mine (Willden, 1964 #3002; Slemmons, 1966, unpublished Vya 1? X 2? sheet; Dohrenwend and Moring, 1991 #281).
Historic earthquake	
Most recent prehistoric deformation	late Quaternary (<130 ka) *Comments:* The timing of most recent event is not well constrained and the two map sources differ greatly. Slemmons (1966, unpublished Vya 1? X 2? sheet) suggests the most recent event is latest Quaternary. However, Dohrenwend and Moring (1991 #281) only show two possible scarps on alluvium, they indicate the youngest is possibly late Quaternary. The assigned age is based on Dohrenwend and Moring (1991 #284) because it is the sole published source. Although the time of the most recent event could be older than indicated here.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* A low slip rate is inferred from general knowledge of slip rates estimated for other faults in the region.
Date and Compiler(s)	1998 Thomas L. Sawyer, Piedmont Geosciences, Inc.
References	#281 Dohrenwend, J.C., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the Vya 1° by 2° quadrangle, Nevada, Oregon, and California: U.S. Geological Survey Miscellaneous Field Studies Map MF-2174, 1 sheet, scale 1:250,000.

	#284 Dohrenwend, J.C., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the McDermitt 1° by 2° quadrangle, Nevada, Oregon, and Idaho: U.S. Geological Survey Miscellaneous Field Studies Map MF-2177, 1 sheet, scale 1:250,000. #3002 Willden, R., 1964, Geology and mineral deposits of Humboldt County, Nevada: Nevada Bureau of Mines and Geology Bulletin 59, 154 p., scale 1:250,000.