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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 in Pine Valley (Class A) No. 1159

Last Review Date: 2000-06-12

citation for this record: **Anderson, R.E., compiler, 2000, Fault number 1159, unnamed faults in Pine Valley, 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 02:17 PM.**

Synopsis	This unnamed group of faults includes a zone of scattered discontinuous north-trending scarps in Pine Valley in the southeast part of the Winnemucca 1?x2? sheet. The faults extend discontinuously along the eastern base of the Cortez Mountains and piedmont of Pine Valley, south to about Pine Creek; they are arranged in a crudely left-stepping en echelon pattern across the northeast-trending Pine Valley. They appear to be intra basin features unrelated to main range-bounding faults, although the discontinuous fault along the margin of the Cortez Mountains southwest of Chicken Spring may be related to uplift of the Cortez Mountains block. On the basis of reconnaissance photogeologic mapping, the scarps are formed on Pleistocene (0.01-1.6 Ma) deposits or erosion surfaces. There has been no paleoseismic studies and no reported detailed mapping of Quaternary deposits or scarp-morphology data, so the recurrence

	time and slip rate are unconstrained.
Name comments	This is a group of scattered discontinuous north-trending fault scarps in Pine Valley in the southeast part of the Winnemucca 1? x2? sheet. The faults extend discontinuously along the eastern base of the Cortez Mountains and piedmont of Pine Valley, south to about Pine Creek. The group includes discontinuous faults along the southeast margin of the Cortez Mountains southwest of Chicken Spring as mapped by Dohrenwend and Moring (1991 #282).
County(s) and State(s)	EUREKA COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Fault traces are from Dohrenwend and Moring (1991 #282) who compiled them photogeologically as a 1:250,000-scale map of young faults in the Winnemucca 1?x2? quadrangle. That map was produced by 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. These faults were not shown on 1:125,000-scale map of young fault scarps by Wallace (1979 #203).
Geologic setting	The faults extend discontinuously from about Pine Creek on the south to the eastern base of the Cortez Mountains on the north and are arranged in a crudely left-stepping en echelon pattern across the northeast-trending Pine Valley. They appear to be down-to-the-east intra basin structures unrelated to main range-bounding faults, although the discontinuous fault along the margin of the Cortez Mountains southwest of Chicken Spring may be related to uplift of the Cortez Mountains block.
Length (km)	20 km.
Average strike	N22°E
Sense of movement	Normal *Comments:* A normal sense is inferred from their location and trend in an extensional tectonic province.

Dip Direction	E; W
Paleoseismology studies	
Geomorphic expression	Scarps face east (Dohrenwend and Moring, 1991 #282) and are apparently low and inconspicuous, inasmuch as they were not mapped by Wallace (1979 #203). No details are reported on their geomorphic expression.
Age of faulted surficial deposits	Quaternary
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Dohrenwend and Morning (1991 #282) mapped most of the scarps as formed Pleistocene (0.01-1.6 Ma) deposits or erosion surfaces. The southernmost scarp in this group is shown by Dohrenwend and Morning (1991 #282) as being on late Pleistocene (10-130 ka) deposits. The age assignment here is based on the inferred age of the majority of the scarps.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* With no paleoseismic study and no reported detailed mapping of Quaternary deposits or scarp-morphology data, the slip rate is unconstrained. Estimate is consistent with the poorly expressed nature of the scarps (i.e., not recognized by Wallace, 1979 #203).
Date and Compiler(s)	2000 R. Ernest Anderson, U.S. Geological Survey, Emeritus
References	#282 Dohrenwend, J.C., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the Winnemucca 1° by 2° quadrangle, Nevada: U.S. Geological Survey Miscellaneous Field Studies Map MF-2175, 1 sheet, scale 1:250,000. #203 Wallace, R.E., 1979, Map of young fault scarps related to earthquakes in north-central Nevada: U.S. Geological Survey

	Open-File Report 79-1554, 2 sheet, scale 1:125,000.