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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 northern Pancake Range (Class A) No. 1214

Last Review Date: 2000-10-23

citation for this record: **Redsteer, M.H., compiler, 2000, Fault number 1214, unnamed faults in northern Pancake 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 02:17 PM.**

Synopsis	These unnamed faults form subparallel, north- trending, down-to-the-east scarps that were mapped on the northeast flank of the Pancake Range, east of hill 2258 (T17N, R55E) on the Hamilton quadrangle (1:1:100,000 scale topographic sheet). They could be related to a northern extension of unnamed faults east of the Duckwater Hills [1280], which has a similar setting and sense of throw. No detailed studies have been made of these poorly documented Quaternary faults.
Name comments	These faults are not named, were mapped by Dohrenwend and others (1992 #2480). They could be related to the Diamond Mountains fault zone [1212].
County(s) and	WHITE PINE COUNTY, NEVADA

State(s)	WHITE PINE COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Location based on 1:250,000-scale map of Dohrenwend and others (1992 #2480). Mapping based on photogeologic analysis of primarily 1:24,000-scale color aerial photography supplemented with 1:60,000-scale black-and-white aerial photography, transferred by inspection to 1:62,500-scale topographic maps and photographically reduced and directly transferred to 1:250,000-scale topographic maps, and subsequent mapping by 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.
Geologic setting	This unnamed group of faults is located on the western side of the northern Pancake Range, in the southeastern part of Newark Valley. The Newark Valley is located in the central part of the Great Basin within the Basin and Range province. This region typically consists of north-south trending mountains separated by broad desert valleys. During the Paleozoic, the central part of the Great Basin was located on the eastern margin of the Cordilleran geosyncline (Kay, 1951 #4402). The majority of the area was overlain with Paleozoic sedimentary rocks, more than 1.6 km thick, that are primarily of marine origin (Hose and Blake, 1976 #4341). The Paleozoic sequence is deformed by folding and thrust faulting, and unconformably capped by Tertiary volcanic and intrusive rocks of Eocene to Oligocene and perhaps Miocene age (Stewart, 1980 #3056). During the Neogene, these rocks have been uplifted into mountain ranges having present elevations of as much as 3,000 m that alternate with 1,700-m-high flat-floored valleys. Valley bottom sediment, such as those within the Newark Valley, are typically comprised of Pleistocene lake deposits, and sand and gravel deposits of alluvial-fans and fluvial terraces.
Length (km)	6 km.
Average strike	N7°E
Sense of	Normal

movement	Normal
Dip Direction	E *Comments:* Dohrenwend and others (1992 #2480) indicates that most of the faults are down to the east.
Paleoseismology studies	
Geomorphic expression	Fault expressed as topographic lineaments of linear hillside ridges and depressions.
Age of faulted surficial deposits	Estimated to be early to middle Pleistocene (0.13 to 1.6 Ma) by Dohrenwend and others (1992 #2480).
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* The faults are considered Quaternary (<1.6 Ma), but Dohrenwend and others (1992 #2480) show one scarp on a deposit of early to middle Pleistocene (130 ka to 1.6 Ma).
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Low slip-rate category is assigned on the basis of poor geomorphic preservation and relative inactivity of similar distributed faults in the Basin and Range province.
Date and Compiler(s)	2000 Margaret Hisa Redsteer, U.S. Geological Survey
References	#2480 Dohrenwend, J.C., Schell, B.A., and Moring, B.C., 1992, Reconnaissance photogeologic map of young faults in the Ely 1° by 2° quadrangle, Nevada and Utah: U.S. Geological Survey Miscellaneous Field Studies Map MF-2181, 1 sheet, scale 1:250,000. #4341 Hose, R.K., and Blake, M.C., Jr., 1976, Geology and mineral resources of White Pine County, Nevada: Nevada Bureau of Mines and Geology Bulletin 85, 105 p.

	#4402 Kay, M., 1951, North American geosynclines: Geological Society of America Memoir 48, 143 p. #3056 Stewart, J.H., 1980, Geology of Nevada—A discussion to accompany the geologic map of Nevada: Nevada Bureau of Mines and Geology Special Publication 4, 136 p.