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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.

Western Reveille Range fault zone (Class A) No. 1364

Last Review Date: 1999-09-14

citation for this record: **Sawyer, T.L., and Anderson, R.E., compilers, 1999, Fault number 1364, Western Reveille Range 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 02:13 PM.**

Synopsis	This north-northwest to north-striking normal fault bounds the Reveille Range on the west. Reconnaissance photogeologic mapping of these faults is the source of data. Trench investigations and detailed studies of scarp morphology have not been completed.
Name comments	Refers to faults mapped by Ekren and others (1973 #2939), Gardner and others (1980 #1196), Schell (1981 #2844), and by Dohrenwend and others (1996 ##2846). Schell (1981 #2844) named the fault the East Reveille fault; however, the Western Reveille Range name of dePolo (1998 #2845) is more descriptive. The fault extends from the south end of the Reveille Range, west of Reveille Park, north to the Lost Buro Mine at the north end of the main range block. As restricted here, the fault excludes

	numerous faults in Reveille Valley that are mapped with the Central Reveille fault zone [1110]. **Fault ID:** Refers to fault 110 on Plates A7 and A8 in Schell (1981 #2844) and to fault G13 of dePolo (1998 #2845). Also refers to fault CR of Piety (1995 #915).
County(s) and State(s)	NYE COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Location of south part (75% in Goldfield sheet) taken from Reheis (1992 #1604) who mapped it at 1:100,000 as modified from mapping at 1:250,000 by Schell (1981 #2843). Modification done on basis of photogeologic study of aerial photographs at scales of 1:60,000 and 1:80,000. Original mapping by analysis of 1:24,000 color aerial photographs and 1:60,000 black and white aerial photographs. Location of north part (25% in Tonopah sheet) based on 1:250,000-scale maps of Schell (1981 #2844) and of Dohrenwend and others (1996 #2846). Mapping by Schell (1981 #2844; 1981 #2844) 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 field verification. Mapping Dohrenwend and others (1996 #2846) 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.
Geologic setting	The western Reveille Range fault is a north-striking range-bounding structure at the west base of the Reveille Range separating the range from the basin beneath Reveille Valley on the west. It is one of many northerly striking extensional faults in this region of the Basin and Range (Ekren and others, 1973 #2939).
Length (km)	43 km.
Average strike	N1°E

Sense of movement	Normal *Comments:* (Ekren and others, 1973 #2939; Gardner and others, 1980 #1196; Schell, 1981 #2844)
Dip Direction	W
Paleoseismology studies	
Geomorphic expression	The fault is expressed by scarps and lineaments on Tertiary volcanic rocks, and by a fault juxtaposing Quaternary alluvium against bedrock (Ekren and others, 1973 #2939; Gardner and others, 1980 #1196; Schell, 1981 #2844; Dohrenwend and others, 1996 #2846; Reheis, 1992 #1604). dePolo (1998 #2845) reports a maximum preferred basal fault facet height of 73 m (61-98 m).
Age of faulted surficial deposits	Quaternary alluvium and Tertiary volcanic rocks
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Although timing of most recent prehistorical event is not well constrained, Schell (1981 #2844) suggested a probable late Pleistocene time based on a short section along the southern part of the fault zone in early Quaternary alluvium (Schell, 1981 #2843; 1981 #2844). Ekren and others (1973 #2939) and Dohrenwend and others (1996 #2846) mapped a fault juxtaposing Quaternary alluvium against bedrock. The most conservative age assignment is made here due to the lack of agreement.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* No detailed data exists to determine slip rates for this fault. dePolo (1998 #2845) assigned a reconnaissance vertical slip rate of 0.171 mm/yr based on an empirical relationship between his preferred maximum basal facet height and vertical slip rate. The size of the facets (tens to hundreds of meters, as measured from topographic maps) indicates they are the result of many

	seismic cycles, and thus the derived slip rate reflects a long-term average. 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)	1999 Thomas L. Sawyer, Piedmont Geosciences, Inc. R. Ernest Anderson, U.S. Geological Survey, Emeritus
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. #2846 Dohrenwend, J.C., Schell, B.A., Menges, C.M., Moring, B.C., and McKittrick, M.A., 1996, Reconnaissance photogeologic map of young (Quaternary and late Tertiary) faults in Nevada, *in* Singer, D.A., ed., Analysis of Nevada's metal-bearing mineral resources: Nevada Bureau of Mines and Geology Open-File Report 96-2, 1 pl., scale 1:1,000,000. #2939 Ekren, E.B., Rogers, C.L., and Dixon, G.L., 1973, Geologic and Bouguer gravity map of the Reveille quadrangle, Nye County, Nevada: U.S. Geological Survey Miscellaneous Investigations Map I-806, scale 1:48,000. #1196 Gardner, J.N., Eddy, A.C., Goff, F.E., and Grafft, K.S., 1980, Reconnaissance geologic map of the northern Kawich and southern Reveille Ranges, Nye County, Nevada: Los Alamos Scientific Laboratory LA-8390-MAP, UC-51, 6 sheets, scale 1:62,500. #915 Piety, L.A., 1995, Compilation of known and suspected Quaternary faults within 100 km of Yucca Mountain, Nevada and California: U.S. Geological Survey Open-File Report 94-112, 404 p., 2 pls., scale 1:250,000. #1604 Reheis, M.C., 1992, Aerial photographic interpretation of lineaments and faults in late Cenozoic deposits in the Cactus Flat and Pahute Mesa 1:100,000 quadrangles and the western parts of the Timpahute Range, Pahranagat Range, Indian Springs, and Las Vegas 1:100,000 quadrangles, Nevada: U.S. Geological Survey Open-File Report 92-193, 14 p., 3 pls., scale 1:100,000.

	#2843 Schell, B.A., 1981, Faults and lineaments in the MX Sitting Region, Nevada and Utah, Volume I: Technical report to U.S. Department of [Defense] the Air Force, Norton Air Force Base, California, under Contract FO4704-80-C-0006, November 6, 1981, 77 p. #2844 Schell, B.A., 1981, Faults and lineaments in the MX Siting Region, Nevada and Utah, Volume II: Technical report to U.S. Department of [Defense] the Air Force, Norton Air Force Base, California, under Contract FO4704-80-C-0006, November 6, 1981, 29 p., 11 pls., scale 1:250,000.