

# 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 Paradise Valley fault zone (Class A) No. 1514

Last Review Date: 1999-01-28

*citation for this record:* Adams, K., compiler, 1999, Fault number 1514, Western Paradise Valley 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 02:50 PM.

<b>Synopsis</b>	This distributed group of predominately north- to northeast-striking piedmont faults is on eastern piedmont of the southern Santa Rosa Range in western Paradise Valley and extends from near Willow Point north to near Singas Creek. Faults are expressed as small clusters of short scarps on Quaternary alluvium. Scarps predominately face west and east, but two scarps near the southern edge of the group face north. Reconnaissance photogeologic mapping of the faults is the source of data. Trench investigations and detailed studies of scarp morphology have not been completed.
<b>Name comments</b>	Refers to a group of faults in western Paradise Valley mapped by Slemmons (1966, unpublished McDermitt 1? X 2? sheet) and Dohrenwend and Moring (1991 #284). dePolo (1998 #2845)

	referred to these faults as the Western Paradise Valley fault zone. <b>Fault ID:</b> Refers to fault MD4 (Western Paradise Valley fault zone) of dePolo (1998 #2845).
<b>County(s) and State(s)</b>	HUMBOLDT COUNTY, NEVADA
<b>Physiographic province(s)</b>	BASIN AND RANGE
<b>Reliability of location</b>	Good Compiled at 1:100,000 scale.  <i>Comments:</i> Fault locations are based on 1:250,000-scale maps of Dohrenwend and Moring (1991 #284) and Slemmons (1966, unpublished McDermitt 1? X 2? sheet). Dohrenwend and Moring (1991 #284) mapped 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. Slemmons (1966, unpublished McDermitt 1? X 2? sheet) mapped from analysis of 1:60,000-scale AMS photography transferred to mylar overlaid onto a 1:250,000-scale topographic map using proportional dividers.
<b>Geologic setting</b>	This distributed group of predominately north- to northeast-striking piedmont faults is on eastern piedmont of the southern Santa Rosa Range in western Paradise Valley and extends from near Willow Point north to near Singas Creek (Willden, 1964 #3002; Erwin and others, 1985 #3009; Erwin, 1988 #3008).
<b>Length (km)</b>	27 km.
<b>Average strike</b>	N12°E
<b>Sense of movement</b>	Normal  <i>Comments:</i> (Dohrenwend and Moring, 1991 #284)
<b>Dip Direction</b>	E; W
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	Faults are expressed as discrete small clusters of short scarps on Quaternary alluvium; scarps predominately face west and east, but two scarps near the southern edge of the group face north.

	dePolo (1998 #2845) indicates that there are scarps on alluvium but no basal fault facets.
<b>Age of faulted surficial deposits</b>	Quaternary. The faults offset undifferentiated Quaternary alluvium (Willden, 1964 #3002; Slemmons, 1966, unpublished McDermitt 1° X 2° sheet). Dohrenwend and Moring (1991 #284) show one fault-related lineament on late Pleistocene (10-130 ka) alluvium.
<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	late Quaternary (<130 ka) <i>Comments:</i> The timing of most recent event is poorly constrained. Late Quaternary time is suggested based on reconnaissance photogeologic mapping of Dohrenwend and Moring (1991 #284).
<b>Recurrence interval</b>	
<b>Slip-rate category</b>	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.
<b>Date and Compiler(s)</b>	1999 Kenneth Adams, Piedmont Geosciences, Inc.
<b>References</b>	#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.  #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.

#3008 Erwin, J.W., 1988, Discussion of the McDermitt gravity sheet, Map#86: Nevada Bureau of Mines and Geology, Open File Report 88-2, 4 p.

#3009 Erwin, J.W., Ponce, D.A., and Wagini, A., 1985, Bouguer gravity map of Nevada, McDermitt sheet: Nevada Bureau of Mines and Geology, Map 86, 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.

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