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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 Black Rock Desert (Class A) No. 1486

Last Review Date: 1998-07-19

citation for this record: **Sawyer, T.L., compiler, 1998, Fault number 1486, unnamed faults in northern Black Rock Desert, 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	The faults shown here are part of a distributed group of right-stepping faults that appear to form a zone that consists of largely Tertiary intra-plateau faults crossing Warm Springs Canyon and Tertiary volcanic rocks near Mud Meadow Reservoir. It includes Quaternary piedmont faults that cross Soldier Meadows at the north end of the west arm of the Black Rock Desert and short range-bounding faults along the front of the northern Black Rock Range, east of Summit Lake. North-northwest-striking faults near Mahogany Creek, which lie within the group, are included in fault zone 1487. The piedmont faults are expressed as scarps and deflected drainages on piedmont-slope deposits in Soldier Meadow, one fault appears to coincide with falls on Soldier Creek near Dry Canyon. Range-front faults are generally expressed by abrupt mountain fronts juxtaposing Quaternary deposits against Tertiary volcanic rock, and the intra-plateau faults we do not

	include are marked by topographic lineaments on resistant Tertiary volcanic rocks. 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Name comments	Refers to faults mapped by Slemmons (1966, unpublished Vya 1? X 2? sheet) and Dohrenwend and Moring (1991 #281) at north end of west arm of the Black Rock Desert near Mud Meadow Reservoir, crossing Warm Springs Canyon and Soldier Meadows, and bounding west front of the northern Black Rock Range east of Summit Lake; refers to southern part of the Soldier Meadow lineament zone of dePolo (1998 #2845). **Fault ID:** Refers to part of fault V18 of dePolo (1998 #2845).
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 are based on 1:250,000-scale maps of Dohrenwend and Moring (1991 #281) and Slemmons (1966, unpublished Vya 1? X 2? sheet); mapping by Dohrenwend and Moring (1991 #281) is 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 and then reduced and transferred to 1:250,000-scale topographic maps. Mapping by Slemmons (1966, unpublished Vya 1? X 2? sheet) is from 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	The faults shown here are part of a distributed group of right-stepping faults that appear to form a zone that consists of largely Tertiary intra-plateau faults that cross Warm Springs Canyon and Tertiary volcanic rocks near Mud Meadow Reservoir (Dohrenwend and Moring, 1991 #281). It includes Quaternary piedmont faults that cross Soldier Meadows at the north end of the west arm of the Black Rock Desert and short range-bounding faults along the front of the northern Black Rock Range, east of Summit Lake. North-northwest-striking faults near Mahogany

	Creek, which lie within the group, are included in fault zone 1487.
Length (km)	40 km.
Average strike	N12°E
Sense of movement	Normal *Comments:* Not studied in detail, but shown as normal faults (Slemmons, 1966, unpublished Vya 1? X 2? sheet; Dohrenwend and Moring, 1991 #281).
Dip Direction	W; E
Paleoseismology studies	
Geomorphic expression	Quaternary faults in Soldier Meadow are expressed as scarps and deflected drainages on piedmont-slope deposits and one fault appears to coincide with falls on Soldier Creek near Dry Canyon. Range-front faults are generally expressed by the abrupt west front of the northern Black Rock Range and juxtapose Quaternary deposits against Tertiary volcanic rock, and by a short scarp on high piedmont-slope deposits east of Summit Lake. The intra-plateau faults that we do not include are marked by topographic lineaments on resistant Tertiary volcanic rocks and are subparallel to the piedmont and range-front faults, suggesting but not proving young movement (Slemmons, 1966, unpublished Vya 1? X 2? sheet; Dohrenwend and Moring, 1991 #281).
Age of faulted surficial deposits	Latest Quaternary(?); Quaternary; Tertiary. Many faults in this zone offset Tertiary volcanic rocks and Quaternary piedmont-slope deposits (Dohrenwend and Moring, 1991 #281), but Slemmons (1966, unpublished Vya 1? X 2? sheet) reported that latest Quaternary deposits may be faulted northeast of Summit Lake.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *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) shows scarps in Soldier Meadow as being latest Quaternary in age. Dohrenwend and

	Moring (1991 #281) map a single scarp on Pleistocene (0.1-1.6 Ma) alluvium in a similar location. The assigned age category is based on the sole published source.
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 and modest height of topographic escarpments on resistant Tertiary volcanic rocks.
Date and Compiler(s)	1998 Thomas L. Sawyer, Piedmont Geosciences, Inc.
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. #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.