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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.

Coyote Spring fault (Class A) No. 1121

Last Review Date: 1999-07-06

citation for this record: **Anderson, R.E., compiler, 1999, Fault number 1121, Coyote Spring fault, 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	The Coyote Spring fault is a down-to-west, north-striking, normal fault at the southwestern end of the Delamar Mountains. It follows the base of a west-facing bedrock escarpment, and locally is expressed as scarps on Quaternary surfaces or deposits. It is located between the northeast-striking Maynard Lake [1122] and Kane Spring Wash faults [1123] on the north and south, respectively, but its Quaternary trace it is not mapped as extending to those faults so its relationship to them is unclear. Little is known of its geomorphic expression, and no estimates of recurrence or slip rate can be made. The last displacement event is estimated as late Pleistocene.
Name comments	Name applied by Schell (1981 #2844). **Fault ID:** Referred to as fault number 23 by Schell (1981 #2844) and C15 (Southwestern Delamar Mountains fault zone) by dePolo

	(1999 #2843).
County(s) and State(s)	LINCOLN COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Fault trace taken from Schell (1981 #2844) who compiled it at 1:250,000 from 1:25,000-scale aerial photos following field study.
Geologic setting	The north-striking Coyote Spring fault is one of several north-striking Basin and Range faults north and northeast of Las Vegas Valley. It is located between the northeast-striking Maynard Lake fault [1122] on the north and the Kane Spring Wash fault [1123] on the south. Schell (1981 #2844, Table A2) comments that it merges with the Kane Springs Wash fault, but does not map it as such (his Plate 9). Although short and not a major block-bounding fault, the Coyote Spring fault may be a typical down-to-the-west Basin and Range fault separating the Delamar Mountains from a short narrow unnamed basin situated between the Delamar Mountains and the northern Sheep Range. According to Jayko (1990 #1553), exposed normal and strike-slip faults in this area are controlled by subjacent detachment faults that limit their depth extent.
Length (km)	15 km.
Average strike	N1°W
Sense of movement	Normal *Comments:* Shown as down to the west by Schell (1981 #2844) with a short (<1 km) antithetic strand directly west of the main fault.
Dip Direction	W *Comments:* Dip direction not reported but probably west based on general topographic expression. Fault probably has a moderate to steep dip as is typical for range-bounding normal faults.

Paleoseismology studies	
Geomorphic expression	According to Ekren and others (1977 #1036), the fault follows the base of a steep west-facing escarpment formed on pre-Tertiary rocks. In an unpublished map of Quaternary faults in the Caliente 1:250,000-scale map (published at 1:1,000,000, Dohrenwend and others, 1996 #2846), short parts of the fault are expressed as scarps on Quaternary surfaces or materials, but no details are available.
Age of faulted surficial deposits	According to Schell (1981 #2844), the youngest unit displaced is intermediate-age alluvial fan with estimated age of 15-700 ka (mostly 15-200 ka). In an unpublished map of Quaternary faults in the Caliente 1:250,000-scale map (published at 1:1,000,000, Dohrenwend and others, 1996 #2846), short parts of the fault are mapped as developed on surfaces or materials of early to middle and (or) late Pleistocene age (0.01–1.5 Ma).
Historic earthquake	
Most recent prehistoric deformation	late Quaternary (<130 ka) *Comments:* Timing of last displacement estimated by Schell (1981 #2844) as late Pleistocene.
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 0.01 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.
Date and Compiler(s)	1999 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. #1036 Ekren, E.B., Orkild, P.P., Sargent, K.A., and Dixon, G.L., 1977, Geologic map of Tertiary rocks, Lincoln County, Nevada: U.S. Geological Survey Miscellaneous Investigations Map I-1041, 1 sheet, scale 1:250,000. #1553 Jayko, A.S., 1990, Shallow crustal deformation in the Pahranagat area, southern Nevada, *in* Wernicke, B.P., ed., Basin and Range extensional tectonics near the latitude of Las Vegas, Nevada: Geological Society of America Memoir 176, p. 213-236. #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.