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Quaternary Fault and Fold Database of the United States

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Six-mile Flat fault zone (Class A) No. 1129

Last Review Date: 1999-07-20

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Synopsis	The Six-mile Flat fault zone is a 3-mile-wide zone of discontinuous, scattered, northeast-striking faults extending northeast from the Hiko fault zone [1130] northeast to the Pahroc fault [1128] in the North Pahroc Range. The structural linkage, if any, between the faults of the zone and the Hiko and Pahroc faults at their end points is not known. In general, the faults of the Six-mile Flat fault zone do not follow any obvious structural or topographic trends that might elucidate their geologic setting. The south faults of the zone extend into or across the alluvium of Pahroc Valley, and the north faults are in bedrock. In general, there are no reported descriptions of geomorphic expression. The faults that cut the alluvium of Pahroc Valley are based on alignment of widely spaced scarps or lineaments and presumably are poorly defined. Little is known of the Quaternary history of these faults, and estimates of recurrence and slip rate are not possible. The probable age of last movement is estimated as late

	Pleistocene, but no supporting data are given.
Name comments	Name adapted from Schell who applied the name Six-mile Flat fault to a 3-mile-wide zone of northeast-striking faults extending northeast from the Hiko fault zone [1130] to the Pahroc fault [1128]. **Fault ID:** Refers to fault 91 of Schell (1981 #2844).
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 traces taken from Schell (1981 #2844) who compiled them at 1:250,000 from 1:25,000-scale aerial photos following field study.
Geologic setting	The Six-mile Flat fault zone consists of discontinuous, scattered, northeast-striking faults extending northeast from the Hiko fault zone [1130] northeast to the Pahroc fault [1128] in the North Pahroc Range. The south faults of the zone extend into or across Pahroc Valley, but are not range-bounding structures. It is not known whether the faults comprising the zone are entirely dip slip or have a component of left slip as do many other northeast-striking faults in the region (Tschanz and Pampeyan, 1970 #1682; Ekren and others, 1977 #1036). Also, the structural linkage, if any, between the faults of the zone and the Hiko and Pahroc faults at their end points is not known. Ekren and others (1977 #1036) show some of the northeast-striking faults terminating at the Pahroc fault and one of them apparently offsetting that fault, suggesting a complex interaction between them. In general, the faults of the Six-mile Flat fault zone do not follow any obvious structural or topographic trends that might elucidate their geologic setting.
Length (km)	22 km.
Average strike	N48°E
Sense of movement	Normal

	Comments: Shown as normal faults by Ekren and others (1977 #1036) and Schell (1981 #2844).
Dip Direction	SE *Comments:* Probably steep, consistent with generally straight traces and with dip of other faults in the region.
Paleoseismology studies	
Geomorphic expression	In general, there are no reported descriptions of geomorphic expression. Ekren and others (1977 #1036) do not map many of the faults shown by Schell (1981 #2844). The scattered short faults forming the north part of the zone cut Paleozoic and Tertiary bedrock and have a questionable Quaternary history. Ekren and others (1977 #1036) show only one of the faults in the south part of the zone as extending from bedrock into the alluvium of northern Pahroc Valley. All others are mapped as terminating at the bedrock-alluvium contact. In contrast, Schell (1981 #2844) shows the southernmost fault of the zone; the longest of the faults, extending across the alluvium of Pahroc Valley based on alignment of widely spaced scarps or lineaments. Presumably it is poorly defined. Other faults in the alluvium of Pahroc Valley are also mapped either as lineaments or as discontinuous scarps or lineaments.
Age of faulted surficial deposits	Schell (1981 #2844, Table A2) reports that intermediate-age alluvium with an estimated age range of 15-700 ka (mostly 15-200 ka) is cut by the fault and young alluvium with an age range of 0-15 ka is not cut.
Historic earthquake	
Most recent prehistoric deformation	late Quaternary (<130 ka) *Comments:* Schell (1981 #2844) estimates the probable age of last movement as late Pleistocene, but no supporting data are given. In an unpublished map of Quaternary faults in the 1? x 2? Caliente sheet (published at 1:1,000,000, Dohrenwend and others, 1996 #2846) it is estimated (based on photogeologic study) that southeast-facing scarps are formed on deposits or surfaces of questionable late Pleistocene (10-130 ka) age. On the basis of these estimates, a late Quaternary (<130 ka) age is implied.

Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* No estimate can be made, low value is inferred from knowledge of slip rates on other weakly expressed Pleistocene faults in the Basin and Range.
Date and Compiler(s)	1999 R. Ernest Anderson, U.S. Geological Survey, Emeritus
References	#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. #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. #1682 Tschanz, C.M., and Pampeyan, E.H., 1970, Geology and mineral deposits of Lincoln County, Nevada: Nevada Bureau of Mines and Geology Bulletin 73, 188 p.