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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 of Meadow Valley Wash (Class A) No. 1737

Last Review Date: 2001-11-20

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Synopsis	These north-striking, unnamed faults along Meadow Valley Wash were identified as Quaternary structures by photogeologic reconnaissance and have not been studied in the field. They may form the boundaries of a basin-medial graben in the hanging wall of a low-angle normal fault, but little is known of their geomorphic expression or of the age of strata they cut. Recurrence times and slip rate are unknown.
Name comments	Faults not named; shown in an unpublished 1:250,000-scale map by J. C. Dohrenwend of Quaternary faults in the 1? x2? Caliente sheet (published at 1:1,000,000 by Dohrenwend and others, 1996 #2846), four northerly striking faults form a highly discontinuous fault group. The group extends north from the vicinity of Carp (Union Pacific rail siding) to about 2 km north of Cottonwood

	Canyon.
County(s) and State(s)	LINCOLN COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Fault traces are shown in an unpublished 1:250,000-scale map by J. C. Dohrenwend of Quaternary faults in the 1? x2? Caliente sheet (published at 1:1,000,000 by Dohrenwend and others, 1996 #2846). The unpublished map was produced by photogeologic analysis of 1:58,000 nominal-scale, color infrared photography. The photogeologic mapping was transferred directly to 1/2? x 1? topographic quadrangle maps enlarged to the scale of the photographs and then reduced to and compiled on the 1:250,00 Caliente sheet.
Geologic setting	These faults appear to be mid-basin structures within an unnamed extensional basin between the Meadow Valley Mountains and the Mormon Mountains. On the basis of their geomorphic expression as shown on J. C. Dohrenwend's unpublished map, the southern three faults have opposed displacement sense, suggesting that they may form the boundaries of a graben. The Meadow Valley Wash area is reported to be in the hanging wall of a west-dipping detachment fault (Wernicke, 1985 #3317). If so, the depth extent of the graben (?) faults would probably be limited by the detachment fault.
Length (km)	23 km.
Average strike	N4°E
Sense of movement	Normal *Comments:* Normal sense inferred from location in an extensional tectonic setting.
Dip Direction	E; W
Paleoseismology studies	
Geomorphic	Little is known of the geomorphic expression of these faults. The

expression	eastern faults trend at a high angle to closely spaced dry washes. Typically, these washes are incised into late Tertiary basin-fill deposits (Ekren and others, 1977 #1036) and, as such, if they form scarps in Quaternary materials, the scarps would be limited to thin remnants atop interfluves. The western faults are within the intricately incised sidewall slopes of Meadow Valley Wash, but their geomorphic expression is not known.
Age of faulted surficial deposits	These faults are located in a part of the Basin and Range that is within the Colorado River drainage basin and thus has experienced erosional down-cutting that is anomalously strong compared with that typical of the Great Basin. Typically, these breached, previously closed basins expose basin-fill sediments of Tertiary age (Ekren and others, 1977 #1036). However, the basin-fill sediments in this area have not been mapped and subdivided.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Although timing of the most recent event is not well constrained, reconnaissance studies by Dohrenwend and others (1996 #2846) suggest a Quaternary time based on photogeologic interpretation.
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.
Date and Compiler(s)	2001 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. #3317 Wernicke, B., 1985, Uniform-sense of normal simple shear of the continental lithosphere: Canadian Journal of Earth Sciences, v. 22, no. 1, p. 108-125.