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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.

East Flat Top Mountain fault (Class A) No. 908

Last Review Date: 1993-12-30

Compiled in cooperation with the Texas Bureau of Economic Geology

citation for this record: **Collins, E., compiler, 1993, Fault number 908, East Flat Top Mountain 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 03:14 PM.**

Synopsis	This series of fault scarps lie at the western edge of the Salt Basin. Reconnaissance studies of scarp morphology and mapping of faulted Quaternary deposits are the primary sources of data. Trench investigations have not been conducted. This description does not include northwest-trending features shown by Goetz (1977 #863), which are suspected to be surficial features and not deeply penetrating faults.
Name comments	Named by Collins and Raney (1993 #852) for proximity to East Flat Top Mountain. Fault extends from about 1.5 km west of Salt Flat, southward to about 12 km west of Sierra Prieta.
County(s) and	

County(s) and State(s)	HUDSPETH COUNTY, TEXAS
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Location based on 1:250,000-scale map compiled from aerial photographs and 1:24,000- to 1:65,000-scale of Collins and Raney (1993 #852). Other maps showing fault include those of King (1965 #860), Belcher and others (1977 #875), and Goetz (1977 #863; 1980 #859).
Geologic setting	Down-to-east fault that bounds the western margin of Salt Basin (King, 1965 #860; Goetz, 1977 #863; 1980 #859; Collins and Raney, 1993 #852; 1994 #853).
Length (km)	21 km.
Average strike	N8°W
Sense of movement	Normal *Comments:* Not studied in detail; sense of movement inferred from topography.
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	Local distinct scarps as much as 2.5 m high on late Pleistocene or younger deposits, although much of the fault's surface trace is covered or eroded (Collins and Raney, 1993 #852).
Age of faulted surficial deposits	Quaternary (King, 1965 #860; Collins and Raney, 1993 #852). Scarp is present on deposits at least as young as late Pleistocene (Collins and Raney, 1993 #852). Does not include features north and west of Salt Flat, as shown by Goetz (1977 #863); these features are mainly cracks and fractures in young playa deposits and have not been confirmed as faults.
Historic earthquake	
Most recent	late Quaternary (<130 ka)

prehistoric deformation	*Comments:* Faulted surficial sediment is unconsolidated, lacks a well-developed calcic soil horizon, and probably is late Pleistocene and/or Holocene in age (Collins and Raney, 1993 #852).
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Inferred low slip rate based on general knowledge of slip rate estimates for other faults in the region.
Date and Compiler(s)	1993 E.W. Collins, Bureau of Economic Geology, The University of Texas at Austin
References	#875 Belcher, R.C., Goetz, L.K., and Muehlberger, W.R., 1977, Map B—Fault scarps within Quaternary units in West Texas, *in* Goetz, L.K., ed., Quaternary faulting in Salt Basin graben, West Texas: The University of Texas at Austin, unpublished M.S. thesis, 1 pl., scale 1:500,000. #852 Collins, E.W., and Raney, J.A., 1993, Late Cenozoic faults of the region surrounding the Eagle Flat study area, northwestern trans-Pecos Texas: Technical report to Texas Low-Level Radioactive Waste Disposal Authority, under Contract IAC(92-93)-0910, 74 p. #853 Collins, E.W., and Raney, J.A., 1994, Impact of late Cenozoic extension on Laramide overthrust belt and Diablo Platform margins, northwestern trans-Pecos Texas, *in* Ahlen, J., Peterson, J., and Bowsher, A.L., eds., Geologic activities in the 90s: New Mexico Bureau of Mines and Mineral Resources Bulletin 150, p. 71-81. #863 Goetz, L.K., 1977, Quaternary faulting in Salt Basin graben, West Texas: The University of Texas at Austin, unpublished M.S. thesis, 136 p. #859 Goetz, L.K., 1980, Quaternary faulting in Salt Basin graben, West Texas, *in* Dickerson, P.W., and Hoffer, J.M., eds., Trans-Pecos region southeastern New Mexico and West Texas: New Mexico Geological Society, 31st Field Conference, November 6-8, 1980, Guidebook, p. 83-92.

	#860 King, P.B., 1965, Geology of the Sierra Diablo region Texas: U.S. Geological Survey Professional Paper 480, 185 p., 1 pl., scale 1:62,500.