

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 fault east of Black Mountain (Class A) No. 2070

Last Review Date: 2016-01-04

Compiled in cooperation with the New Mexico Bureau of Geology & Mineral Resources

citation for this record: Machette, M.N., and Jochems, A.P., compilers, 2016, Fault number 2070, unnamed fault east of Black Mountain, 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 02:23 PM.

Synopsis	Other than geologic mapping, no studies have addressed this unnamed northwest-trending, down-to-the-northeast intrabasin fault that offsets sediment of the Camp Rice Formation along the western margin of the Rio Grande valley, west of Chamberino, New Mexico.
Name comments	Mapped by Seager and others (1987 #627). Fault trends northwest across the dissected western margin of the Rio Grande valley, due east of Black Mountain.
Country(s) and	

County(s) and State(s)	DOÑA ANA COUNTY, NEW MEXICO
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:24,000 scale. <i>Comments:</i> Mapped using trace of fault from 1:125,000-scale map of Seager and others (1987 #627) combined with accurate placement using photogrammetric methods.
Geologic setting	This down-to-the-northeast intrabasin fault offsets sediment of the Camp Rice Formation an unknown amount along a northwest trend. It is mapped for only a short distance within the bluffs of the Rio Grande valley.
Length (km)	3 km.
Average strike	N47°W
Sense of movement	Normal <i>Comments:</i> Inferred from cross sections of Seager and others (1987 #627) and regional geology (Cenozoic extension).
Dip Direction	NE
Paleoseismology studies	
Geomorphic expression	The fault only is exposed in sediment of the Camp Rice Formation (basin-fill deposits); no recognizable scarps are reported.
Age of faulted surficial deposits	As shown by Seager and others (1987 #627), the upper part of the Camp Rice Formation is offset by the fault. The upper part of these deposits are considered to be Quaternary, and may be as young as 700–900 ka (Mack and others, 1993 #1020) immediately below the lower La Mesa surface, such as at this location. However, the fault does not appear to offset La Mesa surface, thereby limiting it most recent (recognized) movement as older than 700 ka but younger than 1.6 Ma.
Historic earthquake	

Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) <i>Comments:</i> Timing based on offset of sediment of the Camp Rice Formation but no recognized offset of the overlying lower La Mesa surface (700–900 ka).
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr <i>Comments:</i> A low slip rate is inferred based on similarity to other intrabasin faults in the area. No measurements of offset have been reported, and the fault does not appear to have been active in the past 700 ka.
Date and Compiler(s)	2016 Michael N. Machette, U.S. Geological Survey, Retired Andrew P. Jochems, New Mexico Bureau of Geology & Mineral Resources
References	#1020 Mack, G.H., Salyards, S.L., and James, W.C., 1993, Magnetostratigraphy of the Plio-Pleistocene Camp Rice and Palomas formations in the Rio Grande rift of southern New Mexico: American Journal of Science, v. 293, p. 49–77. #627 Seager, W.R., Hawley, J.W., Kottowski, F.E., and Kelley, S.A., 1987, Geology of east half of Las Cruces and northeast El Paso 1° x 2° sheets, New Mexico: New Mexico Bureau of Mines and Mineral Resources Geologic Map 57, 3 sheets, scale 1:125,000.

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