

# 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 Rincon Hills fault (Class A) No. 2083

Last Review Date: 2016-01-11

### 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 2083, East Rincon Hills 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 02:22 PM.

<b>Synopsis</b>	Although no detailed studies have been made of this down-to-the east, north-trending fault, it is well mapped and known to be middle Pleistocene or younger in age. The fault forms scarps on sediment of the Camp Rice Formation, and puts these deposits in fault contact with Tertiary bedrock.
<b>Name comments</b>	Named by Seager and Hawley (1973 #996) for the fault's location along the eastern margin of the Rincon Hills, northeast of Rincon, New Mexico. The mapped extent of the fault extends from U.S. Interstate Highway 25, where it was exposed in a road cut, north to the latitude of the Grama (railroad) Siding, an important geologic locality that contains Quaternary volcanic ash.

<b>County(s) and State(s)</b>	DOÑA ANA COUNTY, NEW MEXICO
<b>Physiographic province(s)</b>	BASIN AND RANGE
<b>Reliability of location</b>	Good Compiled at 1:24,000 scale.  <i>Comments:</i> Fault trace from 1:24,000-scale map of Seager and Hawley (1973 #996) combined with accurate placement using photogrammetric methods.
<b>Geologic setting</b>	The fault comprises a 0.5-km-wide zone of short, overlapping faults that form the indistinct eastern margin of the Rincon Hills, which are comprised of a series of northwest-trending horsts and grabens that flank the southern end of the Caballo Mountains. The fault also forms the western margin of the Grama graben, which is part of the much larger Jornada del Muerto (a broad syncline).
<b>Length (km)</b>	7 km.
<b>Average strike</b>	N6°E
<b>Sense of movement</b>	Normal
<b>Dip Direction</b>	E; SW  <i>Comments:</i> No dips are shown on the map of Seager and Hawley (1973 #996), but their cross sections show the fault as high angle.
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	The fault forms dissected scarps on sediment of the Camp Rice Formation and, according to the map of Seager and Hawley (1973 #996), cuts alluvial surfaces formed by older alluvium (unit Qvo).
<b>Age of faulted surficial deposits</b>	The fault uplifted the Rincon surface and effectively isolated it from further fluvial deposition during early Pleistocene or late Pliocene time. Continued deposition of piedmont facies of the Camp Rice Formation (Pleistocene) was primarily on the eastern (downthrown) side of the fault, thus the East Rincon Hills fault probably formed a significant slope in early Pleistocene time. Continued movement on the fault has displaced the Jornada I

	surface (top of piedmont facies of the Camp Rice Formation, middle Pleistocene) and younger local piedmont-slope alluvium, which correlates with either the Tortugas or Picacho alluvium (Seager and Hawley, 1973 #996).
<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	middle and late Quaternary (<750 ka) <i>Comments:</i> Field evidence clearly demonstrates displacement of Pliocene and early to middle Pleistocene sediment, and possible displacement of late Pleistocene sediment (Picacho alluvium).
<b>Recurrence interval</b>	
<b>Slip-rate category</b>	Less than 0.2 mm/yr <i>Comments:</i> No detailed studies have been made of the amount or timing of offset along the fault. In addition, because of syntectonic deposition along and across the fault during the Pleistocene, it is difficult to correlate units across the fault. Nevertheless, Seager and Hawley (1973 #996) stated that the East Rincon Hills fault probably offsets Camp Rice sediment 10–30 m. These data certainly support assigning the lowest slip-rate category to this fault.
<b>Date and Compiler(s)</b>	2016 Michael N. Machette, U.S. Geological Survey, Retired Andrew P. Jochems, New Mexico Bureau of Geology & Mineral Resources
<b>References</b>	#996 Seager, W.R., and Hawley, J.W., 1973, Geology of Rincon quadrangle, Doña Ana County, New Mexico: New Mexico Bureau of Mines and Mineral Resources Bulletin 101, 42 p., 2 pls., scale 1:24,000.

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