

# 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](#).

## Contreras Cemetery fault (Class A) No. 1999

Last Review Date: 2016-07-13

*citation for this record:* Jochems, A.P., compiler, 2016, Fault number 1999, Contreras Cemetery 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 02:23 PM.

<b>Synopsis</b>	This down-to-the-west fault cuts Rio Grande terrace gravels presumed to be middle to late Pleistocene in age near the village of Contreras. The fault has a minimum offset of 2–4 m and is buried by younger tributary alluvium presumed to be upper Pleistocene to Holocene. No detailed studies of the fault have been made.
<b>Name comments</b>	McCraw and others (2006 #7255) named this previously unmapped fault for the cemetery in the village of Contreras, which is located just west of the fault on a middle to late Pleistocene Rio Grande terrace tread.
<b>County(s) and State(s)</b>	SOCORRO COUNTY, NEW MEXICO
<b>Physiographic province(s)</b>	BASIN AND RANGE

<b>Reliability of location</b>	<p>Good Compiled at 1:24,000 scale.</p> <p><i>Comments:</i> Fault trace from 1:24,000-scale mapping by McCraw and others (2006 #7255) combined with accurate placement using photogrammetric methods.</p>
<b>Geologic setting</b>	<p>This intrabasin fault is located in the southern Belen sub-basin of the Albuquerque basin of the Rio Grande rift. The fault cuts both Pleistocene Rio Grande terrace deposits and piedmont facies of the Plio-Pleistocene Sierra Ladrones Formation (McCraw and others, 2006 #7255).</p>
<b>Length (km)</b>	7 km.
<b>Average strike</b>	N33°E
<b>Sense of movement</b>	
<b>Dip</b>	<p>79° W</p> <p><i>Comments:</i> McCraw and others (2006 #7255) gave a dip value of 79° for the fault approximately 0.5 km south of Highway 60, east of the Rio Grande in the Abeytas 7.5-minute quadrangle.</p>
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	<p>The Contreras Cemetery fault forms a 2- to 4-m-high scarp across Rio Grande terrace deposits and piedmont of the Sierra Ladrones Formation, although deposits within the terrace may be offset more (McCraw and others, 2006 #7255). The fault is best expressed in its central part and dies out to the south where it is buried by younger alluvial deposits. In places, differences in cementation and/or abrupt facies changes may characterize the position of the fault (McCraw and others, 2006 #7255).</p>
<b>Age of faulted surficial deposits</b>	<p>The fault offsets Rio Grande terrace deposits of unit Qrgt3 of McCraw and others (2006 #7255). Love and others (2009 #7547) tentatively correlated the tread of this terrace with geomorphic surfaces further north in the Albuquerque basin and in the Socorro basin to the south, which are thought to date to approximately 130 ka based on radiogenic, paleontologic, and stratigraphic constraints (Phillips and others, 2003 #6915; Connell and others,</p>

	2007 #7514).
<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	late Quaternary (<130 ka)  <i>Comments:</i> This age is assigned based on the tentative correlation of the offset tread of the terrace to local surfaces thought to be late Pleistocene in age (Phillips and others, 2003 #6915; Connell and others, 2007 #7514; Love and others, 2009 #7547). However, deposits of the offset terrace have not been directly dated.
<b>Recurrence interval</b>	
<b>Slip-rate category</b>	Less than 0.2 mm/yr  <i>Comments:</i> The fault is assigned a Quaternary slip rate of less than 0.2 mm/yr based on 4–6 m of offset since 130 ka.
<b>Date and Compiler(s)</b>	2016 Andrew P. Jochems, New Mexico Bureau of Geology & Mineral Resources
<b>References</b>	#7514 Connell, S.D., Love, D.W., and Dunbar, N.W., 2007, Geomorphology and stratigraphy of inset fluvial deposits along the Rio Grande valley in the central Albuquerque Basin, New Mexico: <i>New Mexico Geology</i> , v. 29, no. 1, p. 13–31  #7547 Love, D.W., McCraw, D.J., Chamberlin, R.M., Reiter, M., Connell, S.D., Cather, S.M., and Majkowski, L., 2009, Progress report on tracking Rio Grande terraces across the uplift of the Socorro Magma Body, <i>in</i> Lueth, V.W., Lucas, S.G., and Chamberlin, R.M. eds., <i>Geology of the Chupadera Mesa: New Mexico Geological Society Guidebook 60</i> , p. 415–424.  #7255 McCraw, D.J., Love, D.W., and Connell, S.D., 2006, Geologic map of the Abeytas quadrangle, Socorro County, New Mexico: New Mexico Bureau of Geology and Mineral Resources Open-File Geologic Map 121, scale 1:24,000.  #6915 Phillips, F.M., Ayarbe, J.P., Harrison, J.B.J., and Elmore, D., 2003, Dating rupture events on alluvial fault scarps using cosmogenic nuclides and scarp morphology: <i>Earth and Planetary Science Letters</i> , v. 215, p. 203–218.

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