

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 near Picuda Peak (Class A) No. 2041

Last Review Date: 2016-06-26

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

citation for this record: Personius, S.F., and Jochems, A.P., compilers, 2016, Fault number 2041, unnamed faults near Picuda Peak, 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.

Synopsis

Near Picuda Peak there is a group of down-to-the-east and down-to-the-west, north trending normal faults that offset coarse gravels and underlying sands of the upper Santa Fe Group. Most of these faults trend to the northeast at their southern ends near Picuda Peak; further north, they trend generally north. Detailed mapping of the nearly complete exposures of the Santa Fe Group section in the Rincones de Zia show very closely spaced normal faults, most of which have displacements of only a few meters. These faults generally offset the uppermost coarse gravel of the Upper Santa Fe Group by a few tens of meters.

Name comments	This group of faults are herein named for their proximity to Picuda Peak. Some faults near Picuda Peak were previously described by Black and Hiss (1974 #1287) and Kelley (1977 #1106). These structures were mapped in detail by Manley (1978 #1404) in the Bernalillo NW 7.5-minute quadrangle and by Personius and others (2000 #1413) in the Loma Machete quadrangle.
County(s) and State(s)	SANDOVAL COUNTY, NEW MEXICO
Physiographic province(s)	BASIN AND RANGE
Reliability of location	<p>Good Compiled at 1:24,000 scale.</p> <p><i>Comments:</i> Fault traces are from 1:24,000-scale mapping of Manley (1978 #1404) in the Bernalillo NW quadrangle and Personius and others (2000 #1413) in the Loma Machete quadrangle.</p>
Geologic setting	Near Picuda Peak there is a group of down-to-the-east and down-to-the-west, north trending intrabasin faults near the northern margin of the Albuquerque-Belen basin in the Rio Grande rift. In previous publications, these faults were located near the crest of the Ziana anticline (Black and Hiss, 1974 #1287; Kelley and others, 1976 #1380; Kelley, 1977 #1106), but work by Personius and others (2000 #1413) indicates that opposing dips in the region that were thought to be the expression of a large fold may instead be related to intense normal faulting and block rotation.
Length (km)	10 km.
Average strike	N2°E
Sense of movement	Normal
Dip	<p>43–75° E., 47–87° W.</p> <p><i>Comments:</i> Numerous fault exposures indicate that these faults are usually steeply dipping (Personius and others, 2000 #1413).</p>
Paleoseismology	

studies	
Geomorphic expression	Most faults form narrow topographic ridges and valleys that correlate with sense of fault displacement. Topographic expression is lost, but numerous fault exposures and juxtaposed bedrock mark these faults in the badlands of the Rincones de Zia.
Age of faulted surficial deposits	The ages of offset deposits are poorly known, but the uppermost sand and gravel of the upper Santa Fe Group in this area are thought to be early Pleistocene in age (Personius and others, 2000 #1413).
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) <i>Comments:</i> The unnamed faults near Picuda Peak offset early Pleistocene sediments of the upper Santa Fe Group a few tens of meters but do not appear to offset younger surficial deposits (Personius and others, 2000 #1413).
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr <i>Comments:</i> Offsets of early Pleistocene gravels across individual faults are probably no more than 20–30 m.
Date and Compiler(s)	2016 Stephen F. Personius, U.S. Geological Survey Andrew P. Jochems, New Mexico Bureau of Geology & Mineral Resources
References	#1287 Black, B.A., and Hiss, W.L., 1974, Structure and stratigraphy in the vicinity of the Shell Oil Co. Santa Fe Pacific No. 1 test well, southern Sandoval County, New Mexico, <i>in</i> Siemers, C.T., Woodward, L.A., and Callender, J.F., eds., Ghost Ranch central-northern New Mexico: New Mexico Geological Society, 25th Field Conference, October 10-12, 1974, Guidebook, p. 365-370. #1106 Kelley, V.C., 1977, Geology of Albuquerque basin, New Mexico: New Mexico Bureau of Mines and Mineral Resources Memoir 33, 60 p., 2 pls.

#1380 Kelley, V.C., Woodward, L.A., Kudo, A.M., and Callender, J.F., 1976, Guidebook to Albuquerque basin of the Rio Grande rift, New Mexico: New Mexico Bureau of Mines and Mineral Resources Circular 153, 31 p.

#1404 Manley, K., 1978, Geologic map of Bernalillo NW quadrangle, Sandoval County, New Mexico: U.S. Geological Survey Geologic quadrangle Map GQ-1446, 1 sheet, scale 1:24,000.

#1413 Personius, S.F., Machette, M.N., and Stone, B.D., 2000, Preliminary geologic map of the Loma Machete quadrangle, Sandoval County, New Mexico: U.S. Geological Survey Miscellaneous Field Studies Map MF-2334, scale 1:24,000.

[Questions or comments?](#)

[Facebook](#) [Twitter](#) [Google](#) [Email](#)

[Hazards](#)

[Design Ground Motions](#)[Seismic Hazard Maps & Site-Specific Data](#)[Faults](#)[Scenarios](#)

[Earthquakes](#)[Hazards](#)[Data](#)[Education](#)[Monitoring](#)[Research](#)

[Home](#)[About Us](#)[Contacts](#)[Legal](#)