

# 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 south of Placitas Arroyo (Class A) No. 2082

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 2082, unnamed faults south of Placitas Arroyo, 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>	These faults form scarps on an erosional surface cut across sediment of the Camp Rice Formation and on a younger (possibly late Pleistocene) piedmont surface. They are parallel to and probably associated with the Sierra de las Uvas fault zone [2081], which is several kilometers to the south. No detailed studies of the faults have been made.
<b>Name comments</b>	These unnamed east-trending faults were first shown by Clemons and Seager (1973 #1003). They are parallel to but basinward of the Sierra de las Uvas fault zone [2081]. Seager and others (1982

	#626) showed the faults extending 5–6 km across the northern piedmont of the Sierra de las Uvas Mountains about 1–3 km south of Placitas Arroyo.
<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 Clemons and Seager (1973 #1003) combined with accurate placement using photogrammetric methods.
<b>Geologic setting</b>	These east-striking faults are parallel to but basinward of the Sierra de las Uvas fault zone [2081], which bounds the northwest margin of an uplifted Tertiary dome of the same name. This geometric relation as well as a similar sense of slip and motion suggest that the unnamed faults are sympathetic to and associated with the Sierra de las Uvas fault zone.
<b>Length (km)</b>	6 km.
<b>Average strike</b>	N83°E
<b>Sense of movement</b>	Normal
<b>Dip Direction</b>	N  <i>Comments:</i> The fault strands (Quaternary and older) are parallel to and probably similar to faults of the Sierra de las Uvas zone [2081], which are shown as high-angle structures on cross section D of Clemons and Seager (1973 #1003). However, no specific dip values are shown on their map.
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	Most of the fault traces are characterized by moderately large (10 m) scarps on the piedmont facies of the Camp Rice Formation; smaller scarps are found on a younger (middle to late Pleistocene) sequence of piedmont surfaces.

<b>Age of faulted surficial deposits</b>	The largest scarps are younger than the piedmont facies of the Camp Rice Formation, which in this area may be equivalent to the Jornada I surface. If so, the faulting must be younger than 700–900 ka (Mack and others, 1993 #1020), which is the time at which deposition of the Camp Rice Formation ceased. However, the Jornada I surface is a piedmont facies, and deposition of these sediments may have persisted longer, perhaps until about 500–700 ka (Gile and others, 2007#7346). In addition, the small scarps are present on a younger sequence of piedmont surfaces (Qvo of Seager and others, 1982 #626) that probably correlate with the Tortugas alluvium (middle Pleistocene) and/or the Picacho alluvium (late Pleistocene) (Seager and others, 1975 #995).
<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	middle and late Quaternary (<750 ka)  <i>Comments:</i> Age-category assignment based on offset of sediment of the upper part of the Camp Rice Formation. At least one of the faults was probably active in the early part of the late Pleistocene.
<b>Recurrence interval</b>	
<b>Slip-rate category</b>	Less than 0.2 mm/yr  <i>Comments:</i> Although no scarp heights or times of faulting have been determined, the lack of continuity of the fault scarps and their apparent moderate (<10 m) to low height (several meters) as revealed from 1:24,000-scale topographic maps suggest that the middle to late Quaternary slip rate across the fault zone is probably much less than 0.2 mm/yr.
<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>	#1003 Clemons, R.E., and Seager, W.R., 1973, Geology of Souse Springs quadrangle, New Mexico: New Mexico Bureau of Mines and Mineral Resources Bulletin 100, 31 p., 1 pl., scale 1:24,000.  #7346 Gile, L.H., Monger, H.C., Grossman, R.B., Ahrens, R.J., Hawley, J.W., Peterson, F.F., Gibbens, R.P., Lenz, J.M., Bestelmeyer, B.T., and Nolen, B.A., 2007, A 50th anniversary guidebook for the Desert Project: U.S. Department of Agriculture,

Natural Resources Conservation Service, National Soil Survey Center, 295 p.

#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.

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