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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 east of Alma (Class A) No. 2011

Last Review Date: 2016-02-29

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 2011, unnamed faults east of Alma, 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	These north-trending fault traces are mapped on high-level Quaternary surfaces that flank the western margin of the Mogollon Mountains. Although mapped as lineaments by others, the features appear to displace older Quaternary surfaces. No detailed studies have been conducted to confirm the amount or times of faulting.
Name comments	The faults are mapped between Round Mountain on the north and Whitewater Mesa on the south, about 5 km east of Alma, in west-central New Mexico.
County(s) and	CATRON COUNTY, NEW MEXICO

State(s)	CATRON COUNTY, NEW MEXICO
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:24,000 scale. *Comments:* Traces from 1:24,000-scale mapping of Ratte (1981 #1270) coupled with accurate placement using photogrammetric methods.
Geologic setting	These suspected north-trending faults are mapped as lineaments that cross high-level Quaternary surfaces flanking the western margin of the Mogollon Mountains. They may represent horsetail-like splays at the northern end of the Tertiary to Quaternary age Mogollon fault [2012]. The surfaces are formed on basin-fill sediment of the Gila Conglomerate (Ratte, 1981 #1270).
Length (km)	12 km.
Average strike	N12°W
Sense of movement	Normal *Comments:* Not reported, but inferred by compiler to be normal.
Dip Direction	W; E *Comments:* Inferred to be high angle.
Paleoseismology studies	
Geomorphic expression	These north-trending faults are mapped as lineaments that cross eroded remnants of high-level Quaternary surfaces. On the basis of projections of adjacent surfaces from 1:24,000-scale topographic maps, one can speculate that there is less than 10 m of vertical offset of the surfaces. Additionally, the faults appear to control the position of north and south-trending drainages that cut into underlying basin-fill sediment.
Age of faulted surficial deposits	The surfaces that appear to be deformed are mapped as Quaternary (undifferentiated) and may date from the middle or early Quaternary (0.5–1.6 Ma), which seems likely from their high position in the landscape. The surfaces are formed on basin-

	fill sediment (Gila Conglomerate, reported Pliocene to Pleistocene), which contains Pleistocene fossils in adjacent areas (Ratte, 1981 #1270).
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Timing based on probable offset of middle to early Quaternary surfaces. However, movement may have occurred later in the Quaternary, but no detailed Quaternary studies or trenching investigations have been conducted.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* A low slip-rate category is assigned because there appears to be less than 10 m of vertical offset associated with these faults (mapped as lineaments).
Date and Compiler(s)	2016 Michael N. Machette, U.S. Geological Survey, Retired Andrew P. Jochems, New Mexico Bureau of Geology & Mineral Resources
References	#1270 Ratte, J.C., 1981, Geologic map of the Mogollon quadrangle, Catron County, New Mexico: U.S. Geological Survey Geologic quadrangle Map GQ-1557, 1 sheet, scale 1:24,000.