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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 fault/monocline (Class A) No. 2055

Last Review Date: 1996-02-02

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

citation for this record: **Machette, M.N., compiler, 1996, Fault number 2055, unnamed fault/monocline, 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	Little is known about this structure, which is fundamentally a fault-cored monocline within the Hueco basin. The fault strikes south along the east margin of the basin (Seager and others, 1987 #627). No studies of scarp morphology or detailed mapping have been published.
Name comments	This unnamed structure was shown by Seager and others (1987 #627) as extending from the center of the Hueco basin (about 4 km west-northwest of Hueco siding, New Mexico), east and south along the western edge of the Hueco uplift into Texas. The southern end of the structure has not been recognized; although it probably extends south into Texas, it was not shown by Collins

	and others (1996 #993) on their fault map of West Texas.
County(s) and State(s)	EL PASO COUNTY, TEXAS OTERO COUNTY, NEW MEXICO
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:125,000 scale. *Comments:* Location taken from 1:125,000-scale mapping of Seager and others (1987 #627).
Geologic setting	This intrabasin to basin-marginal fault and monocline lie along the eastern margin of the Hueco basin. Few faults exist in this part of the basin, although farther north, the Alamogordo fault forms the eastern margin of the Hueco basin and the western margin of the Sacramento Mountains and Otero Hills.
Length (km)	20 km.
Average strike	N54°W
Sense of movement	Normal
Dip Direction	SW
Paleoseismology studies	
Geomorphic expression	In the deeper part of the Hueco basin, the structure is expressed at the surface as a gentle southside-down monocline that trends east-west. To the east, near the margin of the basin, the structure becomes more fault-like and is associated with a gentle west-side-down fault scarp that trends south to southeast. The area of transition between the two different expressions is taken as the midpoint of its inferred (dashed) trace on Seager and others' (1987 #627) map.
Age of faulted surficial deposits	Seager and others (1987 #627) show the fault and monocline developed in sediment the Camp Rice Formation (Pliocene to early or middle Pleistocene).
Historic earthquake	
Most recent	middle and late Quaternary (<750 ka)

prehistoric deformation	*Comments:* The structure deforms the surface of the Camp Rice Formation (Pliocene to early or middle Pleistocene), and thus must postdate its stabilization, which in the Mesilla basin is considered to have occurred between 0.7–0.9 Ma (Mack and others, 1993 #1020).
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Low slip rate inferred based on similarity to other faults of the Hueco basin.
Date and Compiler(s)	1996 Michael N. Machette, U.S. Geological Survey, Retired
References	#993 Collins, E.W., Raney, J.A., Machette, M.N., Haller, K.M., and Dart, R.L., 1996, Map and data for Quaternary faults in West Texas and adjacent parts of Mexico: U.S. Geological Survey Open-File Report 96-002, 74 p., 1 pl., scale 1:500,000. #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. #627 Seager, W.R., Hawley, J.W., Kottlowski, F.E., and Kelley, S.A., 1987, Geology of east half of Las Cruces and northeast El Paso 1° x 2° sheets, New Mexico: New Mexico Bureau of Mines and Mineral Resources Geologic Map 57, 3 sheets, scale 1:125,000.