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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.

Tikaboo fault (Class A) No. 1050

Last Review Date: 1998-01-29

citation for this record: **Anderson, R.E., compiler, 1998, Fault number 1050, Tikaboo 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 02:19 PM.**

Synopsis	The Tikaboo fault consists of a broad (as much as 10 km wide) group of north- and northwest-striking faults in the western part of central Tikaboo Valley east of the northern Desert Range. Faults occupy diverse settings ranging from axial part of Tikaboo Valley westward across geomorphologically mature-looking northeastern piedmont flank of the northern Desert Range with some traces located in the bedrock part of the range. Tectonic significance is uncertain, but none of the traces appear to bound a major fault block, and certainly not a range block. No detailed study has been made, and no reliable estimate of recurrence or slip rate can be made. The probable age of the youngest displacement is defined as Holocene and late Pleistocene, but an Holocene age is inconsistent with the estimated age of 15 ka or younger for the oldest unit not offset by the fault (Schell, 1981 #2843).
Name	Name taken from Schell (1981 #2843) and adapted by Piety

comments	(Piety, 1995 #915) for a broad (as much as 10 km wide) group of north- and northwest-striking faults in the western part of central Tikaboo Valley east of the northern Desert Range. **Fault ID:** Referred to as fault #136 (Schell, 1981 #2843) and as TK (Piety, 1995 #915).
County(s) and State(s)	LINCOLN COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Poor Compiled at 1:250,000 scale. *Comments:* There is very poor agreement in fault locations between the 1:100,000 photogeologic compilation of Reheis (1992 #1604), the 1:250,000 compilation of Schell (1981 #2843), and an unpublished 1:250,000-scale map by J. C. Dohrenwend of Quaternary faults in the 1? x2? Caliente sheet (published at 1:1,000,000 by Dohrenwend and others, 1996 #2846). The traces shown by Schell (1981 #2843) are used here because they may have been based on larger scale aerial photos (about 1:25,000) than those shown by Reheis (1992 #1604) compiled from 1:60,000 and 1:80,000 photos. The unpublished map by J. C. Dohrenwend shows numerous short (<3 km) Quaternary faults scattered over a large part of Tikaboo Valley. Because of the very poor agreement between the various compilations, Dohrenwend's unpublished fault traces are not compiled.
Geologic setting	Faults occupy diverse settings ranging from axial part of Tikaboo Valley westward across geomorphologically mature-looking northeastern piedmont flank of the northern Desert Range with some traces located in the bedrock part of the range. Tectonic significance is uncertain, but none of the traces appear to bound a major fault block, and certainly not a range block.
Length (km)	18 km.
Average strike	N8°W
Sense of movement	Normal *Comments:* Complex mixture of east- and west-facing scarps are inferred to represent normal faulting.

Dip Direction	E; W; SE
Paleoseismology studies	
Geomorphic expression	Traces shown by Reheis (1992 #1604) as about equally divided between (1) weakly expressed scarps or lineaments on surfaces of Quaternary deposits and (2) weakly to moderately expressed lineaments or scarps on surfaces of Tertiary deposits or as lineaments bounding linear range fronts or within bedrock. Scarps face east and west.
Age of faulted surficial deposits	The youngest deposits said to be offset are undifferentiated alluvial fan deposits of young and intermediate age (estimated at about 200 ka or younger, Schell, 1981 #2843, table A2, p. A25). This displacement is probably along the axial trace in Tikaboo Valley (Piety, 1995 #915). The oldest unit not displaced is young-age alluvial fan deposits with an estimated age of 15 ka or younger (Schell, 1981 #2843, table 3, p. 23). A 3.5-km-long fault trace at the southern end of the zone is portrayed as cutting undifferentiated Holocene to Pliocene alluvium and colluvium (Ekren and others, 1977 #1036).
Historic earthquake	
Most recent prehistoric deformation	middle and late Quaternary (<750 ka) *Comments:* The probable age of the youngest displacement is defined as Holocene and late Pleistocene (defined as <700 ka) (Schell, 1981 #2843, p. 29). This is probably along the axial trace in Tikaboo Valley (Piety, 1995 #915). An Holocene age is inconsistent with the estimated age of 15 ka or younger for the oldest unit not offset by the fault (Schell, 1981 #2843).
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* No reliable estimate can be made, low value is inferred from knowledge of slip rates on other Pleistocene faults in the Basin and Range.
Date and Compiler(s)	1998 R. Ernest Anderson, U.S. Geological Survey, Emeritus

References	#2846 Dohrenwend, J.C., Schell, B.A., Menges, C.M., Moring, B.C., and McKittrick, M.A., 1996, Reconnaissance photogeologic map of young (Quaternary and late Tertiary) faults in Nevada, *in* Singer, D.A., ed., Analysis of Nevada's metal-bearing mineral resources: Nevada Bureau of Mines and Geology Open-File Report 96-2, 1 pl., scale 1:1,000,000. #1036 Ekren, E.B., Orkild, P.P., Sargent, K.A., and Dixon, G.L., 1977, Geologic map of Tertiary rocks, Lincoln County, Nevada: U.S. Geological Survey Miscellaneous Investigations Map I-1041, 1 sheet, scale 1:250,000. #915 Piety, L.A., 1995, Compilation of known and suspected Quaternary faults within 100 km of Yucca Mountain, Nevada and California: U.S. Geological Survey Open-File Report 94-112, 404 p., 2 pls., scale 1:250,000. #1604 Reheis, M.C., 1992, Aerial photographic interpretation of lineaments and faults in late Cenozoic deposits in the Cactus Flat and Pahute Mesa 1:100,000 quadrangles and the western parts of the Timpahute Range, Pahranagat Range, Indian Springs, and Las Vegas 1:100,000 quadrangles, Nevada: U.S. Geological Survey Open-File Report 92-193, 14 p., 3 pls., scale 1:100,000. #2843 Schell, B.A., 1981, Faults and lineaments in the MX Sitting Region, Nevada and Utah, Volume I: Technical report to U.S. Department of [Defense] the Air Force, Norton Air Force Base, California, under Contract FO4704-80-C-0006, November 6, 1981, 77 p.