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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 zone in Ferber Hills (Class A) No. 1721

Last Review Date: 2015-06-23

citation for this record: **Anderson, R.E., Redsteer, M.H., Black, B.D., and Hecker, S., compilers, 2015, Fault number 1721, unnamed fault zone in Ferber Hills, 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 02:26 PM.**

Synopsis	Faults that comprise this unnamed zone are in Tertiary volcanic and sedimentary rocks exposed in and near the Ferber Hills. The faults are relatively short (<15 km, mostly <5 km), widely scattered, and poorly aligned but mostly north-northwest-trending. The faults extend across an area that contains all or parts of several ranges, mountains, and hills including the north-most Schell Creek Range, Antelope Range, Dolly Varden Mountains, southern Goshute Mountains, Kinsley Mountains, Currie Hills, Boone Spring Hills, Dutch Mountain, and Ferber Hills. Most of these highlands are poorly defined physiographically and structurally, so the tectonic significance of the Quaternary faults is not obvious; grouping the faults is subjective. Furthermore the age of the faults is poorly constrained; timing of most recent

	surface rupture is based on one short (<2 km) trace in the southern part of the zone that is mapped on deposits or surfaces of Quaternary age. No detailed study is reported, and recurrence times and slip rate are unknown.
Name comments	Faults that comprise this zone have not been named. **Fault ID:** Refers to fault number 7-17 of Hecker (1993 #286).
County(s) and State(s)	ELKO COUNTY, NEVADA TOOELE COUNTY, UTAH WHITE PINE COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Compiled from photogeologic reconnaissance maps at 1:250,000 scale by Dohrenwend and others (1991 #286; 1992 #2480), which were produced by analysis of 1:58,000-nominal-scale color-infrared photography transferred directly to 1:100,000-scale topographic quadrangle maps enlarged to the scale of the photographs.
Geologic setting	Faults are relatively short (<15 km, mostly <5 km), widely scattered, poorly aligned, and strike mainly north-northwest (Dohrenwend and others, 1991 #286; 1992 #2480), and are in an area of widely exposed Tertiary volcanic and sedimentary rocks (Stewart and Carlson, 1978 #3413; Nutt and Thorman, 1994 #4400) The faults are not associated with major range fronts and most highlands are poorly defined physiographically and structurally The structural associations, if any, between these faults are unclear.
Length (km)	37 km.
Average strike	N14°W
Sense of movement	Normal *Comments:* Inferred from location in an extensional tectonic province
Dip Direction	E

Paleoseismology studies	
Geomorphic expression	Little is known of the geomorphic expression of these faults. Most faults are located at the margins of weakly defined or poorly defined low hills. Barnhard (1985 #428) did not map scarps on alluvium, possibly suggesting the fault's weak geomorphic expression.
Age of faulted surficial deposits	Tertiary, Quaternary. The faults are in Tertiary rocks; however, Dohrenwend and others (1991 #286) assigned a questionable late Quaternary age to one short (<3 km) fault in the southern part of the zone. The other faults are mapped by Dohrenwend and others (1991 #286; 1992 #2480) as morphologically similar to major range-front faults but significantly less extensive with lower, shorter, and less continuous scarp They also mapped several faults in this zone as faults that form scarps and/or prominent topographic lineaments on Tertiary volcanic or sedimentary rocks, but these are not compiled herein.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Most faults of the zone juxtapose bedrock and Quaternary sediment or form scarps and/or prominent topographic lineaments on Tertiary volcanic or sedimentary rock (Dohrenwend and others, 1991 #286). A questionable age of late Quaternary is suggested for one short (<2 km) scarp (Dohrenwend and others, 1991 #286). It is unlikely that this age assignment, based on photogeologic reconnaissance, is generally applicable to all the faults of this zone. The faults of the overall zone are conservatively estimated to be Quaternary.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* The late Quaternary characteristics of faults in this zone (overall geomorphic expression, continuity of scarps, age of faulted deposits, etc.) support a low slip rate. Accordingly, the less than 0.2 mm/yr slip-rate category has been assigned.
Date and	2015

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References	#428 Barnhard, T.P., 1985, Map of fault scarps formed in unconsolidated sediments, Elko 1° x 2° quadrangle, Nevada and Utah: U.S. Geological Survey Miscellaneous Field Studies Map MF-1791, 1 sheet, scale 1:250,000. #286 Dohrenwend, J.C., Schell, B.A., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the Elko 1° by 2° quadrangle, Nevada and Utah: U.S. Geological Survey Miscellaneous Field Studies Map MF-2179, 1 sheet, scale 1:250,000. #2480 Dohrenwend, J.C., Schell, B.A., and Moring, B.C., 1992, Reconnaissance photogeologic map of young faults in the Ely 1° by 2° quadrangle, Nevada and Utah: U.S. Geological Survey Miscellaneous Field Studies Map MF-2181, 1 sheet, scale 1:250,000. #642 Hecker, S., 1993, Quaternary tectonics of Utah with emphasis on earthquake-hazard characterization: Utah Geological Survey Bulletin 127, 157 p., 6 pls., scale 1:500,000. #4400 Nutt, C.J., and Thorman, C.H., 1994, Geologic map of the Weaver Canyon quadrangle, Nevada and Utah, and parts of the Ibapah Peak quadrangle, Utah, and Tippett Canyon quadrangle, Nevada: U.S. Geological Survey Open-File Report 96-635, scale 1:24,000. #3413 Stewart, J.H., and Carlson, J.E., 1978, Geologic map of Nevada: U.S. Geological Survey, Special Geologic Map, 1, scale 1:500,000.