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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 northwest of Illipah (Class A) No. 1283

Last Review Date: 2000-12-01

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Synopsis	This unnamed group of faults consist of north-trending semi-parallel scarps with both down-to-the-east and down-to-the-west displacement, and associated lineaments. These faults lie within the Butte Mountains northwest of Illipah, Nevada, and east of Antelope Mountain, and encompasses an area that is 15 km long and 5 km wide. Reconnaissance photogeologic mapping is the source of data. Trench investigations and detailed studies of scarp morphology have not been completed.
Name comments	This group of faults lie within the Butte Mountains, northwest of Illipah, Nevada, and east of Antelope Mountain.
County(s) and State(s)	WHITE PINE COUNTY, NEVADA
Physiographic	

Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Location based on 1:250,000-scale map of Dohrenwend and others (1992 #2480). Mapping based on photogeologic analysis of primarily 1:24,000-scale color aerial photography supplemented with 1:60,000-scale black-and-white aerial photography, transferred to 1:62,500-scale topographic maps and photographically reduced and transferred to 1:250,000-scale topographic maps, with subsequent mapping by photogeologic analysis of 1:58,000-nominal-scale color-infrared photography transferred directly to 1:100,000-scale topographic quadrangle maps enlarged to scale of the photographs.
Geologic setting	This unnamed group of faults lie within the Butte Mountains, northwest of Illipah, Nevada. The Butte Mountains are situated in the central part of the Great Basin within the Basin and Range province. During the Paleozoic, the central part of the Great Basin was located on the eastern margin of the Cordilleran geosyncline (Kay, 1951 #4402). The majority of the area was overlain with Paleozoic sedimentary rocks more than a mile thick that are primarily of marine origin (Hose and Blake, 1976 #4341). The Paleozoic sequence is deformed by folding and thrust faulting, and unconformably capped by Tertiary volcanic and intrusive rocks from Eocene to Oligocene and perhaps Miocene age (Stewart, 1980 #3056). These rocks have been uplifted into Mountain Ranges with elevations of 3,000 m that alternate with 1,700 m high flat-floored valleys. This fault zone lies entirely within the mountains, which is atypical of Basin and Range faults that are often located on piedmont slopes at the valley margins. North-south-trending mountains separated by broad desert valleys are more typical of Basin and Range topography. Valley sediments are primarily comprised of Pleistocene lake deposits, and sand and gravel deposits of alluvial fans and terraces.
Length (km)	16 km.
Average strike	N8°W
Sense of movement	Normal
Dip Direction	E; W

Paleoseismology studies	
Geomorphic expression	This group of faults is defined by a series of north-trending lineaments and scarps within the Butte Mountains. Lineaments coincide with an abrupt change in slope at the margins of narrow linear ridges.
Age of faulted surficial deposits	Late Pleistocene, Pleistocene and Tertiary (Schell, 1981 #2843). Age estimated to be Pleistocene (10 ka to 1.6 Ma) by Dohrenwend and others (1992 #2480).
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Dohrenwend and others (1992 #2480) considered the last fault movement to be of Quaternary age.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Low slip-rate category is assigned on the basis of poor geomorphic preservation, lack of mapped fault scarps, and relative inactivity of similar distributed faults in the Basin and Range province.
Date and Compiler(s)	2000 Margaret Hisa Redsteer, U.S. Geological Survey
References	#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. #4341 Hose, R.K., and Blake, M.C., Jr., 1976, Geology and mineral resources of White Pine County, Nevada: Nevada Bureau of Mines and Geology Bulletin 85, 105 p. #4402 Kay, M., 1951, North American geosynclines: Geological Society of America Memoir 48, 143 p. #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. #3056 Stewart, J.H., 1980, Geology of Nevada—A discussion to accompany the geologic map of Nevada: Nevada Bureau of Mines and Geology Special Publication 4, 136 p.