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.

Wah Wah Mountains (south end near Lund) fault (Class A) No. 2485

Last Review Date: 1999-10-01

Compiled in cooperation with the Utah Geological Survey

citation for this record: **Black, B.D., and Hecker, S., compilers, 1999, Fault number 2485, Wah Wah Mountains (south end near Lund) 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 02:54 PM.**

Synopsis	Poorly understood late Quateranry fault zone on the western side of the Escalante Desert near Lund. The scarps record at least 5.5 m of displacement on pre-Lake Bonneville alluvial-fan deposits, which suggests multiple faulting events.
Name comments	**Fault ID:** Refers to fault number 9-34 of Hecker (1993 #642).
County(s) and State(s)	IRON COUNTY, UTAH BEAVER COUNTY, UTAH

Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Mapped or discussed by Anderson and Bucknam (1979 #518), Ertec Western, Inc. (Schell, 1981 #4598), Fugro National, Inc. (1981 #4597), Currey (1982 #941), and Anderson and Christenson (1989 #828). Fault traces from 1:250,000-scale mapping of Schell (1981 #4598) and Anderson and Christenson (1989 #828).
Geologic setting	This north- to northeast-trending Basin and Range fault zone bounds the eastern side of the southern Wah Wah Mountains. The Wah Wah Mountains are in an area of southwestern Utah underlain by extensive extrusive Tertiary volcanic rocks. In the mountains, volcanic rocks have been eroded to expose pre-existing Paleozoic and Mesozoic topography. In areas such as Escalante Desert to the south, igneous rocks have been lowered by faulting and covered by alluvium and lake deposits.
Length (km)	41 km.
Average strike	N18°E
Sense of movement	Normal
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	Anderson and Bucknam (1979 #518) and Anderson and Christenson (1989 #828) described scarps in the fault zone as highly dissected, similar to scarps along the west side of the Mineral Mountains [2489]. The scarps record at least 5.5 m of displacement, which suggests multiple faulting events.
Age of faulted surficial deposits	Late Pleistocene.
Historic earthquake	

Most recent prehistoric deformation	late Quaternary (<130 ka) *Comments:* Ertec Western, Inc. (Schell, 1981 #4598) indicated a middle to late Pleistocene(?) age of last movement on the fault, and Anderson and Bucknam (1979 #518) observed an unfaulted alluvial fan northwest of Lund that appeared to be etched by the Bonneville(?) shoreline (suggesting a pre-Bonneville age). An apparent displacement in modern stream alluvium may represent more recent faulting event or may be an exhumed fault in water-saturated deposits (Schell, 1981 #4598); however, the displacement could also be due to liquefaction and lateral spreading (B.A. Schell, written commun. to Suzanne Hecker, 1991). Fugro National, Inc. (1981 #4597) discussed and mapped small displacements (0.3 m) in Holocene alluvium, and Currey (1982 #941) suggested that Lake Bonneville sediment may have been deformed by Holocene movement on the fault. Thus it appears that there is proven late Quaternary movement, and the faulting may be as young as <15 ka.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr
Date and Compiler(s)	1999 Bill D. Black, Utah Geological Survey Suzanne Hecker, U.S. Geological Survey
References	#518 Anderson, R.E., and Bucknam, R.C., 1979, Map of fault scarps in unconsolidated sediments, Richfield 1° x 2° quadrangle, Utah: U.S. Geological Survey Open-File Report 79-1236, 15 p. pamphlet, 1 sheet, scale 1:250,000. #828 Anderson, R.E., and Christenson, G.E., 1989, Quaternary faults, folds, and selected volcanic features in the Cedar City 1° x 2° quadrangle, Utah: Utah Geological and Mineral Survey Miscellaneous Publication 89-6, 29 p., 1 pl., scale 1:250,000. #941 Currey, D.R., 1982, Lake Bonneville—Selected features of relevance to neotectonic analysis: U.S. Geological Survey Open-File Report 82-1070, 30 p., 1 pl., scale 1:1,000,000. #4597 Fugro National Inc., 1981, MX siting investigation, geotechnical evaluation, verification study—Pine Valley, Utah,

	Volume I—Synthesis: Long Beach, California, consultant's report no. FN-TR-27-PI-I for U.S. Air Force, 48 p. #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. #4598 Schell, B.A., 1981, MX siting investigation, faults and lineaments in the MX siting region, Nevada and Utah: Long Beach, California, report no. E-TR-54 for U.S. Air Force, volume I, 77p.; volume II, variously paginated, scale 1:250,000.

Questions or comments?