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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.

East Lakeside Mountains fault zone (Class A) No. 2368

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 2368, East Lakeside Mountains fault zone, 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 02:57 PM.**

Synopsis	Poorly understood zone of Quaternary (?) faults beneath Great Salt Lake. Comprised of two north-trending, east-dipping normal faults that bound the west side of the complexly faulted Great Salt Lake graben and the East Lakeside Mountains.
Name comments	**Fault ID:** Refers to fault number 6-14 of Hecker (1993 #642).
County(s) and State(s)	BOX ELDER COUNTY, UTAH

Physiographic province(s)	BASIN AND RANGE
Reliability of location	Poor Compiled at 1:700,000 scale. *Comments:* Identified only from gravity (Mikulich and Smith, 1974 #4492) and seismic data (Cook and others, 1980 #4491). Fault traces from Mikulich and Smith (1974 #4492).
Geologic setting	Two north-trending, east-dipping normal faults bound the west side of the complexly faulted Great Salt Lake graben and form the East Lakeside Mountains fault zone. The Great Salt Lake graben is bounded on the east by the west-dipping East Great Salt Lake fault zone [2369].
Length (km)	36 km.
Average strike	N8°W
Sense of movement	Normal
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	Fault is entirely subaqueous. Seismic-reflection profiles indicate that faulting penetrates upward into the Quaternary section. Gravity data suggest the fault lies along the Lakeside Mountains, extending farther south than mapped.
Age of faulted surficial deposits	Quaternary (?)
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Based on the depth to faulted sediment and geophysical fault expression.
Recurrence interval	

Slip-rate category	Less than 0.2 mm/yr *Comments:* Depth to faulted lake-bottom sediment indicates a low slip rate.
Date and Compiler(s)	1999 Bill D. Black, Utah Geological Survey Suzanne Hecker, U.S. Geological Survey
References	#4491 Cook, K.L., Gray, E.F., Iverson, R.M., and Strohmeier, M.T., 1980, Bottom gravity meter regional survey of the Great Salt Lake, Utah, *in* Gwynn, G.J., ed., Great Salt Lake—A scientific, history and economic overview: Utah Geological and Mineral Survey Bulletin 116, p. 125-143. #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. #4492 Mikulich, M.J., and Smith, R.B., 1974, Seismic-reflection and aeromagnetic surveys of the Great Salt Lake, Utah, *in* Seismic-Reflection and Aeromagnetic Surveys of the Great Salt Lake, Utah: Geological Society of America Bulletin, p. 991-1002, 1 pl.