

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](#).

Broadmouth Canyon faults (Class A) No. 2377

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 2377, Broadmouth Canyon faults, 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 02:58 PM.

Synopsis	Poorly understood Quaternary(?) faults that intersect the southern end of the James Peak fault [2378].
Name comments	Fault ID: Refers to fault number 11-13 of Hecker (1993 #642).
County(s) and State(s)	CACHE COUNTY, UTAH WEBER COUNTY, UTAH
Physiographic province(s)	MIDDLE ROCKY MOUNTAINS
Reliability of	Good

location	Compiled at 1:125,000 scale. <i>Comments:</i> Mapped or discussed by Sullivan and others (1988 #4508) and Nelson and Sullivan (1992 #617). Fault traces from Sullivan and others (Sullivan and others, 1988 #4508).
Geologic setting	Northeast-trending range-front normal faults at the southern end of Cache Valley. Cache Valley is a north-trending intermontane graben (bounded by high-angle normal faults on the east and west) between the Bear River and Wasatch Ranges.
Length (km)	3 km.
Average strike	N30°E
Sense of movement	Normal
Dip Direction	NW
Paleoseismology studies	
Geomorphic expression	Most faults do not extend into sediment of the Tertiary Salt Lake Formation, but in two areas, faint fault lineaments are visible in these deposits. The morphology of the scarps on Paleozoic bedrock suggests no recurrent late Quaternary displacement. The faults intersect and have been displaced by the James Peak section of the East Cache fault zone [2352d]); however, Nelson and Sullivan (1992 #617) speculated that the faults may be the southernmost part of the East Cache fault zone.
Age of faulted surficial deposits	Tertiary
Historic earthquake	
Most recent prehistoric deformation	late Quaternary (<130 ka) <i>Comments:</i> Although Sullivan and others (1988 #4508) only suspected Quaternary movement, Nelson and Sullivan (Nelson and Sullivan, 1992 #617) show a scarp of probable late Quaternary age at the southwest end of the fault zone.
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	<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.</p> <p>#617 Nelson, A.R., and Sullivan, J.T., 1992, Late Quaternary history of the James Peak fault, southernmost Cache Valley, north-central Utah, <i>in</i> Gori, P.L., and Hays, W.W., eds., Assessment of regional earthquake hazards and risk along the Wasatch front, Utah: U.S. Geological Survey Professional Paper 1500, p. J1-J13.</p> <p>#4508 Sullivan, J.T., Nelson, A.R., LaForge, R.C., Wood, C.K., and Hansen, R.A., 1988, Central Utah regional seismotectonic study for USBR dams in the Wasatch Mountains: Bureau of Reclamation Seismotectonic Report 88-5, 269 p.</p>

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