

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](#).

Hansel Valley (valley floor) faults (Class A) No. 2360

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 2360, Hansel Valley (valley floor) 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 02:57 PM.

Synopsis	Poorly understood Quaternary faults on the floor of Hansel Valley. These are comprised of multiple faults exposed in valley-floor arroyos and that displace early Pleistocene deposits, but not the overlying Lake Bonneville deep-water sediments. Other faults mapped as Quaternary are lineaments that have a suspected tectonic origin.
Name comments	Fault ID: Refers to fault number 6-3 of Hecker (1993 #642).
Country(s) and	

County(s) and State(s)	BOX ELDER COUNTY, UTAH
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Poor Compiled at 1:50,000 scale. <i>Comments:</i> Mapping from Robison (1986 #4486). The faults are not evident at the surface.
Geologic setting	High-angle normal faults of varying dip in the Hansel Valley floor in northern Utah. Hansel Valley is in an aggregation of low, north-trending ranges and narrow valleys in northern Utah between Curlew Valley on the west and the Malad River Valley on the east. The ranges have few outcrops of bare rock, which is typical of weathering and erosion of the Permian Oquirrh Formation, and the valleys have great accumulations of gravel and sand along Lake Bonneville shorelines.
Length (km)	20 km.
Average strike	N5°E
Sense of movement	Normal
Dip Direction	W; E
Paleoseismology studies	
Geomorphic expression	Multiple faults exposed in valley-floor arroyos displace early Pleistocene sediments but not overlying deposits associated with Lake Bonneville. Other faults mapped as Quaternary are lineaments of suspected tectonic origin.
Age of faulted surficial deposits	Tertiary and early Pleistocene deposits; overlain by Lake Bonneville deep-water sediments (<130 ka?).
Historic earthquake	
Most recent prehistoric deformation	middle and late Quaternary (<750 ka) <i>Comments:</i> Herein considered to be <750 ka on the basis of unfaulted Lake Bonneville deep-water sediments (<130 ka?).

	Hecker (1993 #642) indicated a suspected age for faulting of 50-740 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	#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. #4486 Robison, R.M., 1986, The surficial geology and neotectonics of Hansel Valley, Box Elder County, Utah: Logan, Utah State University, unpublished M.S. thesis, 120 p., scale 1:24,000.

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