

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](#).

Grouse Creek and Dove Creek Mountains faults (Class A) No. 2357

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 2357, Grouse Creek and Dove Creek Mountains 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 post early Quaternary faults (<750 ka) in the Grouse Creek and Dove Creek Mountains cut Pliocene to early Pleistocene gravels, Quaternary alluvial and colluvial deposits. No detailed investigations have been performed.
Name comments	Fault ID: Refers to fault number 6-19 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 1:125,000 scale. <i>Comments:</i> Mapped or discussed by Compton (1972 #4496) and Todd (1973 #4485). Mapping from Todd (1973 #4485), Compton (1975 #4497), and Doelling (1980 #4482).
Geologic setting	Several discontinuous north-trending range-front normal faults along the eastern base of the Grouse Creek and Dove Creek Mountains in northwestern Utah. The Grouse Creek Mountains are chiefly Paleozoic sedimentary rock intruded by 23 Ma granite near the south end.
Length (km)	48 km.
Average strike	N19°E
Sense of movement	Normal
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	The faults generally mark the contact between bedrock and unconsolidated surficial units, but in places they trend away from the mountain fronts into Quaternary alluvial and colluvial deposits. Lineaments and aligned springs in these deposits suggest active faulting.
Age of faulted surficial deposits	Pliocene to early Pleistocene gravels, Quaternary alluvial and colluvial deposits.
Historic earthquake	
Most recent prehistoric deformation	middle and late Quaternary (<750 ka) <i>Comments:</i> Faulting displaces Pliocene to early Pleistocene gravels.
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>#4496 Compton, R.R., 1972, Geologic map of the Yost quadrangle, Box Elder County, Utah and Cassia County, Idaho: U.S. Geological Survey Miscellaneous Investigations Map I-672, scale 1:31,680.</p> <p>#4497 Compton, R.R., 1975, Geologic map of the Park Valley quadrangle, Box Elder County, Utah and Cassia County, Idaho: U.S. Geological Survey Miscellaneous Investigations Map I-873, scale 1:31,680.</p> <p>#4482 Doelling, H.H., 1980, Geology and mineral resources of Box Elder County, Utah: Utah Geological and Mineral Survey Bulletin 115, 251 p., 1 pl., scale 1:125,000.</p> <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>#4485 Todd, V.R., 1973, Structure and petrology of metamorphosed rocks in the central Grouse Creek Mountains, Box Elder County, Utah: Palo Alto, Stanford University, unpublished Ph.D. dissertation, 316 p.</p>

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