

# 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](#).

## Faults of Cove Creek dome (Class A) No. 2462

Last Review Date: 2004-07-01

### Compiled in cooperation with the Utah Geological Survey

*citation for this record:* Black, B.D., Hylland, M.D., and Hecker, S., compilers, 2004, Fault number 2462, Faults of Cove Creek dome, 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 02:56 PM.

<b>Synopsis</b>	Poorly understood zone of Quaternary (?) faulting near Cove Creek dome in southwestern Utah.
<b>Name comments</b>	<b>Fault ID:</b> Refers to fault number 9-1 of Hecker (1993 #642).
<b>County(s) and State(s)</b>	MILLARD COUNTY, UTAH
<b>Physiographic province(s)</b>	BASIN AND RANGE
<b>Reliability of</b>	Good

<b>location</b>	<p>Compiled at 1:100,000 scale.</p> <p><i>Comments:</i> Mapped or discussed by Clark (1977 #4553), Anderson and Bucknam (1979 #518), Oviatt (1991 #4552), Hintze and Davis (2003 #6741), and Hintze and others (2003 #6756). Fault traces from 1:50,000-scale mapping of Steven and Morris (1983 #4554) and 1:100,000-scale mapping of Oviatt (1991 #4552).</p>
<b>Geologic setting</b>	<p>Complex zone of normal faults (of varying dip and displacement) near the Cove Creek dome in the Black Rock Desert. The Cove Creek dome area is between the Pavant Range and Cricket Mountains in southwestern Utah, and is dominated by Quaternary basalt flows and deposits of Pleistocene Lake Bonneville. The faults surround Cove Creek dome, a doubly plunging anticline associated with roughly 300 to 400 m of uplift in Pliocene basalt and lake sediment. The Bonneville shoreline is deflected 6-9 m along an east-west profile on the east side of the dome; this is attributed to post-Bonneville uplift of unknown causes.</p>
<b>Length (km)</b>	18 km.
<b>Average strike</b>	N5°E
<b>Sense of movement</b>	Normal
<b>Dip Direction</b>	W; E
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	<p>The faults displace late Tertiary (2.5-2.6 Ma) volcanic flows by greater amounts (some by an order of magnitude more; Clark, 1977 #4553) than the faults to the southeast that cut the 500 ka Cove Fort volcanic flows.</p>
<b>Age of faulted surficial deposits</b>	Late Tertiary volcanic flows and 500 ka Cove Fort volcanic flow.
<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	<p>undifferentiated Quaternary (&lt;1.6 Ma)</p> <p><i>Comments:</i> Although Quaternary movement has not been</p>

	demonstrated for the faults of the Cove Creek dome, the dome itself and nearby faults show evidence for late Quaternary deformation.
<b>Recurrence interval</b>	
<b>Slip-rate category</b>	Less than 0.2 mm/yr
<b>Date and Compiler(s)</b>	2004 Bill D. Black, Utah Geological Survey Michael D. Hylland, Utah Geological Survey Suzanne Hecker, U.S. Geological Survey
<b>References</b>	<p>#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.</p> <p>#4553 Clark, E.E., 1977, Late Cenozoic volcanic and tectonic activity along the eastern margin of the Great Basin, <i>in</i> the proximity of Cove Fort, Utah: Brigham Young University Geology Studies, v. 24, pt.1, p. 87-114.</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>#6741 Hintze, L.F., and Davis, F.D., 2003, Geology of Millard County, Utah: Utah Geological Survey Bulletin 133, 305 p.</p> <p>#6756 Hintze, L.F., Davis, F.D., Rowley, P.D., Cunningham, C.G., Steven, T.A., and Willis, G.C., 2003, Geologic map of the Richfield 30' x 60' quadrangle, southeast Millard County and parts of Beaver, Piute, and Sevier Counties, Utah: Utah Geological Survey Map 195, scale 1:100,000.</p> <p>#4552 Oviatt, C.G., 1991, Quaternary geology of the Black Rock Desert, Millard County, Utah: Utah Geological and Mineral Survey Special Studies 73, 23 p., scale 1:100,000.</p> <p>#4554 Steven, T.A., and Morris, H.T., 1983, Geologic map of the Cove Fort quadrangle, west-central Utah: U.S. Geological Survey Miscellaneous Investigations Map I-1481, scale 1:50,000.</p>

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