

# 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](#).

## Ten Mile graben faults (Class B) No. 2473

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 2473, Ten Mile graben 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 02:54 PM.

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|----------------------|--|
| <b>Synopsis</b>      | Poorly understood zone of Quaternary faulting that forms a narrow graben along Salt Wash southeast of Green River. This graben is at the northern end of a long zone of Quaternary faulting that includes the Moab [2476] and Lisbon Valley [2511] faults. As with the remainder of the zone, the graben is probably related to salt dissolution, but may have a tectonic component, thus we classify it as a Class B feature. |
| <b>Name comments</b> | <b>Fault ID:</b> Refers to fault number 14-4 of Hecker (1993 #642).  |
| <b>County(s) and</b> | EMERY COUNTY, UTAH   |

|  |  |
|--|--|
| <b>State(s)</b>                          | GRAND COUNTY, UTAH   |
| <b>Physiographic province(s)</b>         | COLORADO PLATEAUS  |
| <b>Reliability of location</b>           | Good<br>Compiled at 1:250,000 scale.<br><br><i>Comments:</i> Mapped or discussed by Woodward-Clyde Consultants (1984 #5026, 1996 #5027). Mapping from Williams (1964 #2789) and Williams and Hackman (1964 #2789).   |
| <b>Geologic setting</b>                  | Narrow zone of faulting displacing Cretaceous and Jurassic bedrock along Salt Wash southeast of Green River. The graben is on the northwestern edge of an area typified by northwest-trending, elongate, oval valleys that are collapsed or depressed anticlines.  |
| <b>Length (km)</b>                       | 35 km.   |
| <b>Average strike</b>                    | N72°W  |
| <b>Sense of movement</b>                 | Normal   |
| <b>Dip Direction</b>                     | S; N   |
| <b>Paleoseismology studies</b>           |  |
| <b>Geomorphic expression</b>             | Narrow graben at the northern end of a long zone of Quaternary faulting that includes the Moab [2476] and Lisbon Valley [2511] faults. As with the remainder of the zone, the graben is probably related to salt dissolution, but may have a tectonic component, thus we classify it as a Class B feature. Woodward-Clyde Consultants (1996 #5027) found no evidence for Quaternary deformation and did not consider the graben as a capable fault for seismic-hazard assessment purposes. |
| <b>Age of faulted surficial deposits</b> | Cretaceous   |
| <b>Historic earthquake</b>               |  |
| <b>Most recent prehistoric</b>           | undifferentiated Quaternary (<1.6 Ma)  |

|                             |   |
|-----------------------------|---|
| <b>deformation</b>          | <i>Comments:</i> Based on continuity with Quaternary deformation to the southeast.  |
| <b>Recurrence interval</b>  |   |
| <b>Slip-rate category</b>   | Less than 0.2 mm/yr   |
| <b>Date and Compiler(s)</b> | 1999<br>Bill D. Black, Utah Geological Survey<br>Suzanne Hecker, U.S. Geological Survey   |
| <b>References</b>           | <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>#2789 Williams, P.L., 1964, Geology, structure, and uranium deposits of the Moab quadrangle, Colorado and Utah: U.S. Geological Survey Miscellaneous Geologic Investigations I-360.</p> <p>#5026 Woodward-Clyde Consultants, 1984, Geologic characterization report for the Paradox Basin study region, Utah study areas, volume VI, Salt Valley: Technical report to Battelle Memorial Institute, Office of Nuclear Waste Isolation, under Contract ONWI-290, 190 p.</p> <p>#5027 Woodward-Clyde Federal Services, 1996, Evaluation and potential seismic and salt dissolution hazards at the Atlas Uranium Mill tailings site, Moab, Utah: Technical report to Smith Environmental Technologies and Atlas Corporation, under Contract SK9407, variously paginated.</p> |

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