Jump to Navigation

# 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.**

## unnamed faults flanking Cedar Mountains (Class A) No. 1324

**Last Review Date: 1998-07-19**

***citation for this record:*** **Sawyer, T.L., compiler, 1998, Fault number 1324, unnamed faults flanking Cedar Mountains, 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 02:15 PM.**

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| **Synopsis** | This anastomosing to left-stepping down-to-the-west faults along southwest and northern margins of the Cedar Mountains has minor short surfaces rupture from the 1932 Cedar Mountain earthquake, that generally are along more continuous Quaternary fault scarps. Complex patterns of Quaternary faulting and 1932 surface ruptures suggests that this fault may be related to other faults in the Monte Cristo-Stewart Valley area [1323 and 1325]. The fault zone has a nearly continuous anastomosing to left-stepping faults that extends northwestward from west of Dicalite Summit along the front and upper piedmont slope of the Cedar Mountains. A second group of parallel faults trend northeast from the first at Stewart Spring in a horsetail-splay pattern and continues to Omco Wash in eastern Stewart Valley. Reconnaissance and locally detailed photogeologic mapping of the fault zone and studies of late Cenozoic faulting are the sources |

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| | of data. Trenching has not been completed. |
| **Name comments** | Refers to faults mapped along the southwest base of the Cedar Mountains by Gianella and Callaghan (1934 #1515), Molinari (1984 #1584), Dohrenwend and others (1996 #2846), and dePolo (1994 #2458). This fault extends northwestward from west of Dicalite Summit along southwest side of the Cedar Mountains to Stewart Spring where it continues northeastward to Omco Wash north of Simon Mountain. |
| **County(s) and State(s)** | MINERAL COUNTY, NEVADA |
| **Physiographic province(s)** | BASIN AND RANGE |
| **Reliability of location** | Good<br>Compiled at 1:100,000 scale.<br><br>*Comments:* Location primarily based on digital data of Dohrenwend and others (1996 #2846) from photogeologic analysis of 1:58,000-nominal-scale color-infrared photography; 1932 rupture traces are from 1:48,000-scale map of dePolo (1994 #2458), which is a detailed compilation of 1932 rupture zone based on original mapping by Gianella and Callaghan (1934 #1515) and by Molinari (1984 #1584) supplemented by photogeologic analysis of 1:12,000-scale low-sun-angle aerial photography and field reconnaissance. |
| **Geologic setting** | These anastomosing to left-stepping down-to-the-west faults along the Cedar Mountains appears to be related to the Monte Cristo Valley and Stewart Valley fault zones [1325 and 1323, respectively], which also ruptured during the 1932 Cedar Mountain earthquake. The nearly continuous group of faults that extends northwestward along the front and upper piedmont slope of the Cedar Mountains splays northeastward or intersects a second series of northeast-striking faults that continue across northwest end of the range (Gianella and Callaghan, 1934 #1515; Molinari, 1984 #1584; Dohrenwend and others, 1996 #2846). |
| **Length (km)** | 24 km. |
| **Average strike** | N27°W |
| **Sense of movement** | Normal |

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| | *Comments:* Not studied in detail; normal sense of movement is inferred from topography and three 1932 ruptures; dextral sense is inferred from one short 1932 rupture near Stewart Spring that had possible right-lateral offset (Gianella and Callaghan, 1934 #1515; dePolo, 1994 #2458). |
| **Dip Direction** | SW; NW |
| **Paleoseismology studies** | |
| **Geomorphic expression** | The fault zone is expressed by anastomosing to left-stepping faults along front and upper piedmont slope of the Cedar Mountains and northeast-striking faults at northwest end of range that juxtapose high-level piedmont-slope surfaces against bedrock and by subparallel eroded scarps on Quaternary deposits and Tertiary sedimentary and volcanic rocks (Gianella and Callaghan, 1934 #1515; Molinari, 1984 #1584). The 1932 surface ruptures were marked by scarps as much as 46 cm high and ground cracks with possible right-lateral displacement, however post-faulting erosion has considerably modified these original features (Yount and others, 1993 #621). |
| **Age of faulted surficial deposits** | Quaternary; Tertiary. Scarps and lineaments have been mapped on Quaternary piedmont-slope deposits and on Tertiary lake beds and volcanic rocks (Gianella and Callaghan, 1934 #1515; Molinari, 1984 #1584, Yount and others, 1993 #621). |
| **Historic earthquake** | |
| **Most recent prehistoric deformation** | undifferentiated Quaternary (<1.6 Ma)<br><br>*Comments:* Although timing of the most recent event is not well constrained, a Quaternary time is suggested based on reconnaissance photogeologic mapping of Dohrenwend and others (1996 #2846). |
| **Recurrence interval** | |
| **Slip-rate category** | Less than 0.2 mm/yr<br><br>*Comments:* A low slip rate is inferred from general knowledge of slip rates estimated for other faults in the region. |
| **Date and** | 1998 |

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| **Compiler(s)** | Thomas L. Sawyer, Piedmont Geosciences, Inc. |
| **References** | #2458 dePolo, C.M., 1994, Surface faulting associated with the December 20, 1932 Cedar Mountain earthquake, central Nevada: Nevada Bureau of Mines and Geology Open-File Report OF-94-4, scale 1:24,000.<br><br>#2846 Dohrenwend, J.C., Schell, B.A., Menges, C.M., Moring, B.C., and McKittrick, M.A., 1996, Reconnaissance photogeologic map of young (Quaternary and late Tertiary) faults in Nevada, *in* Singer, D.A., ed., Analysis of Nevada's metal-bearing mineral resources: Nevada Bureau of Mines and Geology Open-File Report 96-2, 1 pl., scale 1:1,000,000.<br><br>#1515 Gianella, V.P., and Callaghan, E., 1934, The Cedar Mountain, Nevada, earthquake of December 20, 1932: Bulletin of the Seismological Society of America, v. 24, p. 345- 377.<br><br>#1584 Molinari, M.P., 1984, Late Cenozoic geology and tectonics of Stewart and Monte Cristo Valleys, west-central Nevada: Reno, University of Nevada, unpublished M.S. thesis, 124 p., 7 pls., scale 1:62,500.<br><br>#621 Yount, J.C., Bell, J.W., dePolo, C.M., and Ramelli, A.R., 1993, Neotectonics of the Walker Lane, Pyramid Lake to Tonopah, Nevada—Part I, *in* Lahren, M.M., Trexler, J.H., Jr., and Spinosa, C., eds., Crustal evolution of the Great Basin and the Sierra Nevada: Reno, Mackay School of Mines, University of Nevada, Geological Society of America, Cordilleran/Rocky Mountain section meeting, Reno, Nevada, May 19-21, 1993, Guidebook, p. 383-391. |