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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.

Big Valley fault (Class A) No. 165

Last Review Date: 2017-07-01

citation for this record: **Bryant, W.A., compiler, 2017, Fault number 165, Big Valley fault, 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 02:35 PM.**

Synopsis	
Name comments	**Fault ID:** Refers to fault number 112 of Jennings (1994).
County(s) and State(s)	LAKE COUNTY, CALIFORNIA
Physiographic province(s)	PACIFIC BORDER
Reliability of location	Good Compiled at 1:24,000 and 1:48,000 scale. *Comments:* Location of fault from Qt_flt_ver_3-0_Final_WGS84_polyline.shp (Bryant, W.A., written communication to K.Haller, August 15, 2017) attributed to Hearn and others (1981) mapped at unspecified scale, 1:24,000-scale map by Hearn and others (1995), and 1:48,000-scale map by Sims

	and Rymer (1976).
Geologic setting	
Length (km)	km.
Average strike	
Sense of movement	Unspecified
Dip	
Paleoseismology studies	
Geomorphic expression	
Age of faulted surficial deposits	
Historic earthquake	San Francisco earthquake 1906
Most recent prehistoric deformation	late Quaternary (<130 ka) *Comments:* A 2-km-long part of the fault is thought to have ruptured in response to the 1906 San Francisco earthquake (Hearn and others, 1988).
Recurrence interval	
Slip-rate category	Between 0.2 and 1.0 mm/yr *Comments:* Long-term deformation rate of 0.8 mm/yr based on 0.42 km in the past 0.5 m.y. (Hearn and others, 1988).
Date and Compiler(s)	2017 William A. Bryant, California Geological Survey
References	#5233 Hearn, B.C., Jr., Donnelly-Nolan, J.M., and Goff, F.E., 1995, Geologic map and structure sections of the Clear Lake volcanics, northern California: U.S. Geological Survey Miscellaneous Investigations Map I-2362, scale 1:24,000. #8132 Hearn, B.C., Jr., Donnelly−Nolan, J.M., and Goff, F.E., 1981, The Clear Lake volcanics—Tectonic setting and magma

	sources, *in* McLaughlin, R.J. and Donnelly−Nolan, J.M., eds., Research in the geysers—Clear Lake geothermal area, northern California: U.S. Geological Survey Professional Paper 1141, p. 25–45. #5303 Hearn, B.C., Jr., McLaughlin, R.J., and Donnelly-Nolan, J.M., 1988, Tectonic framework of the Clear Lake Basin, California, *in* Sims, J.D., ed., Late Quaternary climate, tectonism, and sedimentation in Clear Lake, northern California Coast Ranges: Geological Society of America Special Paper 214, p. 9–20. #2878 Jennings, C.W., 1994, Fault activity map of California and adjacent areas, with locations of recent volcanic eruptions: California Division of Mines and Geology Geologic Data Map 6, 92 p., 2 pls., scale 1:750,000. #8263 Sims, J.D., and Rymer, M.J., 1976, Map of gaseous springs and associated faults in Clear Lake, California: U.S. Geological Survey Miscellaneous Field Studies Map MF−721, scale 1:48,000.