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Quaternary Fault and Fold Database of the United States

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Warner Valley faults, Coleman Valley section (Class A) No. 827c

Last Review Date: 2016-03-25

citation for this record: **Personius, S.F., Lidke, D.J., and Haller, K.M., compilers, 2002, Fault number 827c, Warner Valley faults, Coleman Valley section, 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 03:15 PM.**

Synopsis	**General:** These north-trending normal faults form a large, complex graben syste confines Warner Valley, Coleman Valley, and the northeast part of Long Valley in Basin and Range province of southern Oregon and northern Nevada. The area is underlain by Pliocene and Miocene volcanic and volcaniclastic sedimentary rock fault scarps on Quaternary deposits have been described along the range boundin faults, but several lineaments appear to control the locations of young playas, and stream courses, and interrupt latest Pleistocene pluvial shorelines on the floor of Warner Valley, thus suggesting Quaternary movement. Broad deformation of late Pleistocene pluvial shorelines has also been documented throughout Warner Valle Faults juxtapose Quaternary alluvium or landslide deposits against Miocene to Pliocene volcanic rocks along the eastern and western margins of Coleman Valley **Sections:** This fault has 3 sections. The earthquake source zones delineated by

	Geomatrix Consultants, Inc. (1995 #3593), the West Warner Valley, the East War Valley north, and the East Warner Valley south faults, are retained herein as separ sections, the West Warner Valley, East Warner Valley, and Coleman Valley sectio respectively. The Coleman Valley section extends south into the northeast part of Valley in northern Nevada.
Name comments	**General:** These faults are named after Warner Valley, a large graben system in th Basin and Range Province of southern Oregon and northern Nevada; they were mapped by Walker and Repenning (1965 #3559), Bonham (1969 #2999), Walker MacLeod (1991 #3646), and Dohrenwend and Moring (1991 #281). Pezzopane (#3544) and Pezzopane and Weldon (1993 #149) included these faults in their Wa Valley Graben faults or Warner Valley fault zone. Geomatrix Consultants, Inc. (19 #3593) informally named individual faults the West Warner Valley, the East Warn Valley north, and the East Warner Valley south faults; dePolo (1998 #2845) inclu the western margin fault in Coleman Valley in Nevada in his Coleman Valley fau zone V1. In northern Nevada, the southern extension of these faults is informally known as the Northeast Long Valley fault (V3 of dePolo, 1998 #2845). Herein w retain the fault groupings of Geomatrix Consultants, Inc. (1995 #3593) as the informally named West Warner Valley, East Warner Valley, and Coleman Valley sections, respectively. **Section:** This section is the East Warner Valley south fault of Geomatrix Consult Inc. (1995 #3593). The section is herein informally named after the Coleman Val fault zone (fault number V1) of dePolo (1998 #2845), which is mapped along the western margin of Coleman Valley and extending as the Long Valley fault of deP (1998 #2845) along the eastern border of Long Valley in northern Nevada from e Alkali Lake to Coleman Canyon, and along the east side of Macy Flat and Antelo Flat north of Bald Mountain. **Fault ID:** This section is part of fault number 46 of Pezzopane (1993 #3544), and number 61c of Geomatrix Consultants, Inc. (1995 #3593).
County(s) and State(s)	WASHOE COUNTY, NEVADA LAKE COUNTY, OREGON
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* In Oregon, location of fault from ORActiveFaults (http://www.oregongeology.org/arcgis/rest/services/Public/ORActiveFaults/MapS downloaded 06/02/2016) from 1:100,000-scale mapping of Weldon and others (2 #5648), based on 1:250,000-scale mapping of Walker and Repenning (1965 #355 and 1:500,000-scale mapping of Pezzopane (1993 #3544) in Oregon. In Nevada,

	fault traces are from 1:250,000-scale mapping of Dohrenwend and Moring (1991 #281). The location of the range-bounding fault south of Calcutta Lake in Nevada inferred (Slemmons, 1967 #156).
Geologic setting	These north-trending normal faults form a large, complex graben system that con the Warner Valley, Coleman Valley, and the northeast part of Long Valley in the E and Range province of southern Oregon and northern Nevada. The area is underla Pliocene and Miocene volcanic and volcaniclastic sedimentary rocks (Walker and Repenning, 1965 #3559; Bonham, 1969 #2999; Walker and MacLeod, 1991 #364
Length (km)	This section is 44 km of a total fault length of 133 km.
Average strike	N7°W (for section) versus N9°E (for whole fault)
Sense of movement	Normal *Comments:* These faults are mapped as normal or high-angle faults by Walker and Repenning (1965 #3559), Bonham (1969 #2999), Walker and MacLeod (1991 #3 and Pezzopane (1993 #3544). Sense of movement was not studied in detail in Ne and is inferred from topography (Slemmons, 1967 #156).
Dip Direction	W; E *Comments:* No structural data on the dip of these faults have been published, but Geomatrix Consultants, Inc. (1995 #3593) used an estimated dip of 70° in their modeling of earthquake potential on faults in the Warner Valley in Oregon.
Paleoseismology studies	
Geomorphic expression	Faults in this section are marked by prominent escarpments in Pliocene and Mioc volcanic rocks (Walker and Repenning, 1965 #3559; Bonham, 1969 #2999; Walk and MacLeod, 1991 #3646) along east-and west-facing escarpments that define a graben in Coleman Valley. No young fault scarps have been described along the r bounding faults, although Weldon and others (2002 #5648) describe lineaments a Quaternary deposits on 1:100,000-scale DEMs of the fault traces. Craven (1991 #3951) described deformation of older Pleistocene fan deposits along the western of Coleman Valley. Several of the faults in Long Valley north of Calcutta Lake ar mapped as juxtaposing piedmont-slope deposits against Tertiary rock (Slemmons #156; Dohrenwend and Moring, 1991 #281).
Age of faulted surficial deposits	No fault scarps have been described on Quaternary deposits along the range-bour faults in this section, but Walker and Repenning (1965 #3559), Bonham (1969 #2 Walker and MacLeod (1991 #3646), and Dohrenwend and Moring (1991 #281) mapped faults on the eastern and/or western margins of Coleman Valley in Orego

	the eastern margin of Long Valley in Nevada that juxtapose Quaternary alluvium landslide deposits against Miocene to Pliocene volcanic rocks. Craven (1991 #39 described deformation of older Pleistocene fan deposits of unknown age along th western flank of Coleman Valley.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* No fault scarps on Quaternary deposits have been described along the range-bounding faults in this section. Pezzopane (1993 #3544) and subsequent compilations (Geomatrix Consultants Inc., 1995 #3593; Madin and Mabey, 1996 #3575; Weldon and others, 2002 #5648) also infer Quaternary (<1.6–1.8 Ma) displacement along faults in this section in Oregon, and Quaternary movement w suggested based on reconnaissance photogeologic mapping of Slemmons (1967 # and Dohrenwend and Moring (1991 #281) along faults in this section in Nevada.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Long-term slip rates of 0.08–0.2 mm/yr have been estimated from off Miocene bedrock (S.K. Pezzopane, pers. commun., 1994, in Geomatrix Consulta Inc., 1995 #3593). Geomatrix Consultants, Inc. (1995 #3593) used estimated slip of 0.01–0.2 mm/yr in their analysis of earthquake hazards associated with the Eas Warner Valley faults. dePolo (1998 #2845) estimated a vertical slip rate of 0.001 mm/yr for the fault section in Nevada (his fault V3) based on the presence or abs of scarps on alluvium and basal facets.
Date and Compiler(s)	2002 Stephen F. Personius, U.S. Geological Survey David J. Lidke, U.S. Geological Survey Kathleen M. Haller, U.S. Geological Survey
References	#2999 Bonham, H.F., 1969, Geology and mineral deposits of Washoe and Storey Counties, Nevada: Nevada Bureau of Mines and Geology Bulletin 70, 140 p., 1 p scale 1:250,000. #3951 Craven, G.F., 1991, The tectonic development and late Quaternary deform of Warner Valley south of Hart Mountain, Oregon: Arcata, California, Humboldt University, unpublished M.S. thesis, 94 p., 10 pls. #2845 dePolo, C.M., 1998, A reconnaissance technique for estimating the slip rat normal-slip faults in the Great Basin, and application to faults in Nevada, U.S.A.: Reno, University of Nevada, unpublished Ph.D. dissertation, 199 p.

#281 Dohrenwend, J.C., and Moring, B.C., 1991, Reconnaissance photogeologic of young faults in the Vya 1° by 2° quadrangle, Nevada, Oregon, and California: Geological Survey Miscellaneous Field Studies Map MF-2174, 1 sheet, scale 1:250,000.

#3593 Geomatrix Consultants, Inc., 1995, Seismic design mapping, State of Oreg Technical report to Oregon Department of Transportation, Salem, Oregon, under Contract 11688, January 1995, unpaginated, 5 pls., scale 1:1,250,000.

#3575 Madin, I.P., and Mabey, M.A., 1996, Earthquake hazard maps for Oregon: of Oregon, Department of Geology and Mineral Industries Geological Map Serie GMS-100, 1 sheet.

#3544 Pezzopane, S.K., 1993, Active faults and earthquake ground motions in Or Eugene, Oregon, University of Oregon, unpublished Ph.D. dissertation, 208 p.

#149 Pezzopane, S.K., and Weldon, R.J., II, 1993, Tectonic role of active faulting central Oregon: Tectonics, v. 12, p. 1140-1169.

#156 Slemmons, D.B., 1967, Pliocene and Quaternary crustal movements of the I and-Range province, USA: Journal of Geosciences, Osaka City University, v. 10, 91-103.

#3646 Walker, G.W., and MacLeod, N.S., 1991, Geologic map of Oregon: U.S. Geological Survey, Special Geologic Map, 2 sheets, scale 1:500,000.

#3559 Walker, G.W., and Repenning, C.A., 1965, Reconnaissance geologic map Adel quadrangle, Lake, Harney, and Malheur Counties, Oregon: U.S. Geological Survey Miscellaneous Geologic Investigations I-446, 1 sheet, scale 1:250,000.

#5648 Weldon, R.J., Fletcher, D.K., Weldon, E.M., Scharer, K.M., and McCrory, 2002, An update of Quaternary faults of central and eastern Oregon: U.S. Geolog Survey Open-File Report 02-301 (CD-ROM), 26 sheets, scale 1:100,000.