# An Explanatory Text to Accompany the Fault Activity Map of California

Scale 1:750,000





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Scale 1:750,000

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# INTRODUCTION

The 2010 edition of the FAULT ACTIVTY MAP OF CALIFORNIA was prepared in recognition of the 150<sup>th</sup> Anniversary of the California Geological Survey (CGS). It replaces the FAULT ACTIVITY MAP OF CALIFORNIA AND ADJACENT AREAS (Jennings, 1994) and is more complete with the addition of recent data. The map shows the locations of known faults that can be portrayed at 1:750,000 scale and indicates the latest age when displacements took place, according to available data. The displacements may have been associated with earthquakes or may have been the result of gradual creep along the fault surface. Faults exhibiting creep or triggered creep are identified on the map with appropriate symbols. The faults are color-coded and designated into one of five categories: historic (red), Holocene (orange), late Quaternary (green), undivided Quaternary (purple), and pre-Quaternary (black).

Fault names are indicated on the map where space permits, including newly named faults. Some of the faults on the 1994 map were deleted or revised to reflect new, more detailed studies. The ages of faults on the 1994 map have been revised where improved dating methods were available. Lastly, occurrences of surface faulting caused by earthquakes since 1994 have been added.

In order to effectively catalog the information, the faults have generally retained the reference numbers originally assigned in 1994. These numbers are referenced in Appendix A and Appendix B accompanying this map and report. Each entry in these appendices includes: the name of the fault, its most recent age of activity, and the sources for fault location and recency. If the fault has been encompassed in an Official Earthquake Fault Zone, the 7.5 minute quadrangle maps prepared and issued by CGS are listed.

The 1994 version of the Fault Activity Map of California showed selected faults that exhibited Quaternary displacement in Oregon, Nevada, and Baja California. We decided to limit the data to within California's boundaries for the 2010 version of the Fault Activity Map. Consult the National Quaternary Fault and Fold Database for fault trace data for states adjacent to California (http://earthquake.usgs.gov/hazards/qfaults/). The aligned seismicity and locations of Quaternary volcanoes are not shown on the 2010 Fault Activity Map. However, the location of Quaternary volcanoes can be found on the 2010 version of the Geologic Map of California (Jennings and others, 2010).

# **Digital Compilation**

A significant difference from the 1994 version of the Fault Activity Map of California is the method of fault compilation. Almost all of the Quaternary faults shown in the 2010 version of the Fault Activity Map have been digitally compiled from original-scale source maps (1:12,000 to 1:250,000) used for the 1975 and 1994 maps, as well as more recent mapping when available. This compilation method insures that locations of these faults are more accurate than those depicted on previous editions of the Fault Activity Map. Also, the line width for faults depicted on the 2010 Fault Activity Map has been reduced from 0.35 mm to 0.2 mm (260 m to 150 m width at a scale of 1:750,000). This was done in order to more accurately portray the location and complexity of faults showing evidence of displacement during Quaternary time. The Pre-Quaternary faults remain the same as in the 1994 version.

# **Base Materials**

The base map for the new Fault Activity Map of California consists of a shaded relief image and a combination of cultural, political, transportation, geographic, and hydrologic features. The onshore shaded relief image was derived from 90-meter Digital Elevation Models (DEM) available from the National Elevation Data Set (http://ned.usgs.gov). The offshore bathymetric shaded relief image was derived from DEMs available from the California Department of Fish and Game (http://dfg.ca.gov/biogeodata/gis/mr\_bathy.asp). The cultural, political, transportation, geographic and hydrologic features depicted in the base map were largely derived from data obtained from the Cal-Atlas Geospatial Clearinghouse (http://atlas.ca.gov).

Select geographic features throughout the state and in the offshore region were digitized from USGS 1:500,000-scale topographic maps and include a selection of peaks in the Sierra Nevada named after historic survey members. Projection of the base map layers is Teale Albers, 1983 North American Datum.

# FAULTS

# Introduction

The Fault Activity Map of California shows where faults have been recognized and mapped. Many of the faults are assigned numbers and are keyed to descriptions in Appendix A and Appendix B. In addition, Table 1 describes surface fault rupture associated with earthquakes that are known to have occurred in California. If a Quaternary fault has no number, it was taken from the initial *Fault Map of California* (Jennings, 1975). Refer to Bulletin 201 (Jennings, 1985) for the source on which the fault and its age were based.

As with the 1994 Fault Map of California, a conservative approach was followed for this new edition - we felt it is better to show those faults where evidence is questionable rather than to ignore them. Hence, some questionable faults may have been included as long as they are based on some reasonable data. Omission of such information may lead decision-makers for building critical structures to assume no fault hazard exists. The prudent course should be to include questionable data to suggest where future investigations are needed before any final design and construction takes place.

Although it is not possible to tell if a fault will be reactivated, we assume that if a fault has been active for millions of years and has been active in historic or recent geologic (Quaternary) time, it is very likely to become active again. This assumption is borne out by studies of historically active faults in California and elsewhere.

# **Fault Activity Definitions**

"active," "potentially active," The terms "capable," and "inactive," have been interpreted differently by geologists, seismologists, and agencies, depending on the purpose on hand. To avoid confusion, this Fault Activity Map does not use these terms. Instead, faults are classified according to the age of latest displacement and, hence, are as factual as the geologic data upon which the fault is based. This procedure continues the practice used for the 1994 Fault Activity Map of California. Because a common understanding of terms is essential, the following excerpts from BULLETIN 201, An Explanatory Text to Accompany the

# 1:750,000 Scale Fault and Geologic Maps of California (Jennings, 1985) are restated here.

"In defining the term "fault," geologists have no significant disagreement; the various definitions differ only in the elaboration. All agree in defining a fault as a tectonic fracture or break in the earth's crust along which displacement (horizontal, vertical, or diagonal movement) has taken place. In elaborating, some definitions further specify: (1) that the fracture or break may be either a discrete surface or a wide zone of fractures; (2) that the fault may be a result of repeated displacements which took place suddenly or very slowly as a result of creep slippage; and (3) that the cumulative displacement may be measurable from millimeters to kilometers.

All definitions of "active faults" in common use imply future movement commonly constituting a geologic hazard. In recent years, specialized definitions vary according to the type of structure to be built in the vicinity of a fault and the degree of risk acceptable for a particular type of structure. The most conservative definition is that of the U.S. Nuclear Regulatory Commission (NRC). In defining fault activity for its special uses, the NRC sought to avoid the misunderstanding that might arise from its use of the term "active" by using the term "capable" in its place. A "capable fault" is defined as a fault that exhibits one or more of the following characteristics:

(1) movement at or near the ground surface at least once within the past 35,000 years, or movement of a recurring nature within the past 500,000 years; (2) macro seismicity instrumentally determined with records of sufficient precision to demonstrate a direct relationship with the fault; (3) a structural relation to a fault deemed "capable" such that movement on one can be reasonably expected to be accompanied by movement on the other.

In California, special definitions for active faults were devised to implement the Alquist-Priolo Earthquake Fault Zoning Act of 1972, which regulates development and construction in order to avoid the hazard of surface fault rupture. The State Mining and Geology Board established Policies and Criteria in accordance with the Act. They defined an "active fault" as one which has "had surface displacement within Holocene time (about the last 11,000 years). A "potentially active fault" was considered to be any fault that "showed evidence of surface displacement during Quaternary time (last 1.6 million years). Because of the large number of potentially active

Year	Fault (location)	Magnitude <sup>1</sup>	Surface Rupture Length (kilometers)	Maximum Displacement and Type of Slip <sup>2</sup> (centimeters)	References <sup>3</sup>
1812	San Andreas (Wrightwood)	7±	25+	No data	Jacoby and others, 1988
1838	San Andreas (San Francisco-Mission Santa Clara?)	7	60+	No data	Louderback, 1947 Toppozada and Borchardt, 1998 Bakun, 1999
1857	San Andreas (Parkfield-Fort Tejon to Wrightwood)	7.9	322±	RL 950	Wood, 1955 Bonilla, 1970 Agnew and Sieh, 1978 Sieh, 1978b
1861	Calaveras (Dublin)	5.3	13±	No data	Radbruch, 1968 (p. 52-53) Toppozada and others, 1981 (p. 148)
1868	Hayward (Oakland to Warm Springs)	6.8	48±		Lawson and others, 1908 Bonilla, 1970 Toppozada and others, 1981 (p. 152)
1868	San Andreas (Dos Palmos)	No data	"long fissure"	No data	Townley and Allen, 1939 (p. 500
1872	Owens Valley <sup>4</sup> (Big Pine to Olancha)	7.8 <sup>4</sup>	100+	RL 600 Some LL V 700	Hobbs, 1910 Knopf, 1918 Bonilla, 1970 Beanland and Clark, 1994
1875	Surface rupture previously reported at Clio <sup>5</sup>	6.0?	No data	No data	Bonilla, 1970 Toppozada and others, 1981 (p. 156)
1890	San Andreas (Chittenden)	6.3	8±	30? Lateral	Holden, 1898 (p. 150) Lawson and others, 1908 (p. 110) Toppozada and others, 1981 (p. 162)
1892	Unamed <sup>6</sup> (Allendale, Sacramento Valley)	6.4	1.6	No data	Toppozada and others, 1981 (p. 164)
1899	San Jacinto <sup>7</sup>	6.6	3.2?	No data	Daneš, 1907 Bonilla, 1970 Toppozada and others, 1981 (p. 169)
1901	San Andreas (Parkfield)	6+	"several miles"	V 30	Lawson and others, 1908 (p.40) Townley and Allen, 1939 Brown and others, 1967 (p. 10)
1906	San Andreas (Shelter Cove to San Juan Bautista)	7.8	432	RL 600 V 90	Lawson and others, 1908 Bonilla, 1970
1916	San Andreas <sup>®</sup> (Gorman area)	6±	No data	O data	Branner, 1917 Bonilla, 1959 (p. 134)
1922	San Andreas (Cholame area)	6.5	0.4?		Townley and Allen, 1939 Richter, 1958 (p. 533)
1934	San Andreas (Parkfield area)	6.3	3	No data	Byerly and Wilson, 1935 (p. 233) Richter, 1958 (p. 534)
1940	Imperial (CalifMex.)	6.9	64+	RL 580 V 120	Ulrich, 1941 Bonilla, 1970 Hileman and others, 1973
1947	Manix (Mojave Desert)	6.2	1.6	LL 7.6	Richter, 1958 Bonilla, 1970 Hileman and others, 1973
1950	Fort Sage (Honey Lake Valley)	5.6	8.9	V 20	Gianella, 1957 Bonilla, 1970
1951	Superstition Hills	5.6	3.2±	RL slight	Allen and others, 1965 Bonilla, 1970

Table 1. Known surface fault rupture associated with earthquakes in California.

Table 1 - continued

Year	Fault (location)	Magnitude <sup>1</sup>	Surface Rupture Length (kilometers)	Maximum Displacement and Type of Slip <sup>2</sup> (centimeters)	References <sup>3</sup>
1952	White Wolf (Arvin- Tehachapi)	7.4 and 6.4	57	LL 76 V 122	Buwalda and St. Amand, 1955 Bonilla, 1970 Hileman and others, 1973
1966	Imperial	3.6	9.7	RL 1.5	Brune and Allen, 1967b Bonilla, 1970
1966	San Andreas (Parkfield)	6.4	37		Brown and others, 1967 Bonilla, 1970
1966	Unnamed (Truckee) <sup>10</sup>	5.9	16.1	No data	Carter, 1966 Kachadoorian and others, 1967
1968	Unnamed (La Habra) <sup>11</sup>	?	0.32	LL 5 V 2.5±	Yerkes, 1972 (p. 31) Lamar, 1972
1968	Coyote Creek (Borrego Mountain)	6.6	31	RL 38+	Allen and others, 1968 Hileman and others, 1973 Clark, 1972a
1971	San Fernando	6.6	15.3	LL 100 V 100	U.S. Geological Survey, 1971 (p.55) Hileman and others, 1973 Allen and others, 1975 (p. 275)
1975	Galway Lake	5.2	6.8	RL 1.5	Hill and Beeby, 1977 Bryant and Hart, 2007
1975	Cleveland Hill (Oroville Dam area)	5.7	5.7	RL 4 V 5	Hart and Rapp, 1975
1975	Brawley	4.7	10.4	V20	Sharp, 1976 Bryant and Hart, 2007
1978	Stephens Pass (E. of Mt. Shasta)	4.6	2+		Bennett and others, 1979 Bryant and Hart, 2007
1979	Homestead Valley	5.2	3.25	RL 10 V 4	Hill and others, 1980
1979	Johnson Valley	5.2	1.45	RL 1 V 1	Hill and others, 1980
1979	Calaveras (Coyote Lake area)	5.8	39?	RL 0.5	Urhammer, 1980 Lee and others, 1979 Armstrong, 1979
1979	Imperial Brawley Rico (Imperial County)	6.6	30 13 1	RL 55 V 15 V10	U.S. Geological Survey, 1982
1980	Greenville (Livermore Valley area)	5.8	6.5	RL 3	Hart, 1981b
1980	Hilton Creek (Mammoth Lakes area)	6.0 - 6.5	20	V 30	Taylor and Bryant, 1980 Bryant and Hart, 2007
1981	"Lompoc Quarry" <sup>12</sup>	2.5	0.6	V 25	U.S. Geological Survey, 1984
1982	Little Lake	5.2	10		Roquremore and Zellmer, 1983 Bryant and Hart, 2007
1983	"Coalinga Nose"	6.7	0.005	V 5	Rymer and Ellsworth, 1990 Bryant and Hart, 2007
1983	Nunez (Coaling area)	5.2-5.9	3.3	V 60	Rymer and Ellsworth, 1990 Hart and McJunkin, 1983
1984	Calaveras (Morgan Hill area) <sup>13</sup>	6.1	1.2	RL 20?	Hart, 1984c
1986	Banning	6.1	9	RL 7	Sharp and others, 1986b
1986	White Mountains (Chalfant Valley area)	6.2	13	RL 11	Kahle and others, 1986 Lienkaemper and others, 1987

Table 1 - continued

Year	Fault (location)	Magnitude <sup>1</sup>	Surface Rupture Length (kilometers)	Maximum Displacement and Type of Slip <sup>2</sup> (centimeters)	References <sup>3</sup>
1987	Elmore Ranch	6.2	12	LL 12	Hanks and Allen, 1989 Kahle and others, 1988
1987	Superstition Hills	6.6	28	RL 80	Hanks and Allen, 1989 Kahle and others, 1988
1989	San Andreas (Loma Prieta area)	6.9	1 <sup>14</sup>	RL 2.5	U.S. Geological Survey, 1989
1992	Parts of Johnson Valley, Homestead Valley, Emerson, Camp Rock, Eureka Peak, Burnt Mountain (Landers)	7.3	85	RL 460-600	Hart and others, 1993 Bryant, 1993b, 1994, 2004 Treiman, 1992
	Various ground deformations, but not on causative fault. Earthquake hypocenter on blind fault (Northridge)	6.7	-	-	Rymer and others, 2001
	Airport Lake Kern and Inyo counties)	5.4-5.8	2.5	1	Treiman, 1995
	Lavic Lake, Bullion, Mesquite Lake (Hector Mine area)	7.1	45	RL 525	Treiman and others, 2002
2004	San Andreas (Parkfield)	6.0	32	RL 15 <sup>15</sup> V 3 <sup>15</sup>	Rymer and others, 2006

<sup>1</sup>Earthquake magnitudes greater than 6 prior to 1985 are mostly from Toppozada and others, 1986. Magnitudes listed after 1985 are either surface wave magnitude (Ms) or moment magnitude (Mw). The scale is logarithmic so that M8 is 10 times that of M7 and 100 times that of M6. In energy terms a M8 earthquake radiates 30 times that of M7 and 900 times the energy of M6.

<sup>2</sup>RL=right lateral, LL=left lateral; V=vertical.

<sup>3</sup>Complete references listed in Appendix C.

<sup>4</sup>Four large earthquakes: M8 and 6.5, and a few days later M6.1 and 6.6 (Toppozada and others, 1986).

<sup>5</sup>The 1875 earthquake was thought to have occurred in Mohawk Valley as shown on the Fault Map of California, 1975. Turner (1897), 22 years after the event, thought he could locate ground ruptures for this event described by local residents near Clio. New data and isoseismal maps (Toppozada and others, 1981) indicate the earthquake was centered to the east, probably on the Honey Lake Fault.

<sup>6</sup>Two early newspaper accounts (Toppozada and others, 1981) describe a fissure about 1.6 Kilometers (1 Mile) long near Allendale, 8 kilometers (5 miles) west of Dixon (not plotted on Fault Activity Map of California for lack of data).

<sup>7</sup>Questionable fault rupture — may have been landslides (Allen and others, 1965; Sharp, 1972). Not plotted on Fault Activity Map of California.

<sup>8</sup>Questionable fault rupture — cracking may have been caused by shaking only.

<sup>9</sup>Includes tectonic creep that occurred within 50 days following main shock.

<sup>10</sup>Surface fault rupture not conclusive.

<sup>11</sup>Some uncertainty regarding earthquake associated with 1968 ground rupture near La Habra (Yerkes, 1972); probably related to oil and brine withdrawal.

<sup>12</sup>Lompoc quarry "fault" triggered by unloading of mined-out diatomite.

<sup>13</sup>Questionable faulting (may be landsliding).

<sup>14</sup>Surface rupture possibly triggered slip.

<sup>15</sup>Includes tectonic creep that accumulated for several months following main shock.

faults in California, the State Geologist adopted additional definitions and criteria in an effort to limit zoning to only those faults with a relatively "high" potential for surface rupture. Thus, the term "sufficiently active" was defined as a fault for which there was evidence of Holocene surface displacement. This term was used in conjunction with the term "well-defined," which relates to the ability to locate a Holocene fault as a surface or near-surface feature (Bryant and Hart, 2007).

Another special definition is used by the U.S. Bureau of Reclamation in the design of dams. According to this agency, any fault exhibiting relative displacement within the past 100,000 years is an active fault.

Table 2 is a summary of the fault definitions in common use and the factors on which they are based. Each of these definitions is concerned with future fault activity and this is based on the recent history of the fault. Depending on the type of structure being planned and the acceptable risk to be taken, the definition of an active fault may be based on the last 11,000 to 100,000 years or on repeated movements during the past 500,000 years.

Of recent concern is the possibility that faults, even geologically ancient ones (that is, pre-Quaternary), can be reactivated by the influences of man. For example, there are now several authenticated cases showing that the filling of a reservoir can induce fault activity and earthquakes of significant size. In this way, what may have been considered "inactive faults" can become "active faults."

The term "active fault" is best avoided altogether when seismic risk is not a consideration. For simply describing the characteristics of faults, such terms as "historic

	Design Structure	Fault Term	Time of Last Displacement on Fault	Other Criteria
NRC (U.S. Nuclear Regulatory Comm.), 1978	Nuclear power plants	Capable	1) at least once within past 35,000 yrs. or 2) two or more times within past 500,000 yrs.	<ol> <li>Macroseismicity relatable to specific fault.</li> <li>Structural relationship to a capable fault such that movement on one can cause movement on another.</li> </ol>
California Geological Survey	Structures for human occupancy	Active	Within Holocene (11,000 yrs.).	
(Bryant and Hart, 2007)		Potentially Active	During Quaternary (last 1.6 million years)	
USBR (U.S. Bureau Reclamation), 1976	Dams	Active	Within past 100,000 yrs	
	Not specified	Active	Historic	
Grading Codes Board (Assoc. Eng. Geol.), 1973		Potentially Active	No Historic evidence but strong evidence of geologically recent activity	a) Ground water barrier or anomaly within Holocene deposits. b) Related earthquake epicenters
000., 1970		High Potential	Holocene	b) Related earthquake epicenters
		Low Potential	Pleistocene (less than 1 Myrs)	
Louderback, 1950	Not specified	Active	Historic or Recent	Related earthquake epicenters.

# Table 2. Comparison of various commonly used fault definitions.

fault," "Holocene fault," "Quaternary fault, "pre-Quaternary fault," or "seismically active fault" are preferable. With these designations, a project geologist, after confirming the designation of a fault, can then go on and make an independent determination of its activity relative to the type of structure to be built and the acceptable risk."

# Fault Age

The fault map depicts what is known about the recency of displacement along faults. However, future studies may find additional faults, require replotting of faults, or, in some cases, change the age classification shown here. The age classifications are based on geologic evidence to determine the youngest faulted unit and the oldest unfaulted unit along each fault or fault section. If Quaternary displacement is indicated, the fault is classified into one of three categories within Quaternary time (Holocene, late Quaternary, or Quaternary undifferentiated). Faults with reported surface rupture during historic time are further classified as historically active.

The reliability of the age classifications on this map is dependent upon several factors. First, and perhaps foremost, fault-related geomorphic features may have been destroyed by natural or human Geomorphic features, such as scarps, activities. troughs, offset drainage channels, triangular faceted spurs and sag ponds, are geologically temporary. They may be easily destroyed by erosion or covered by vegetation and their preservation is strongly affected by climate. Likewise, fault features may be modified or destroyed by works of humans, especially in urban areas. Second, geologists may have different interpretations of faults after examining incomplete geologic evidence for recency of faulting. Third, the ages of the rock units used to classify the faults may not be accurately known, or in some cases, Quaternary rocks may be absent. Fourth, some of the data used to classify faults on this map were based on studies not done directly to determine the recency of fault activity.

The color code on the Fault Activity Map of California reflects the *latest* age at which fault rupture has occurred and not the age the fault originated.

Thus, a fault showing Holocene or Quaternary displacement may have originated several million years before and may have had several previous displacements.

The age of some faults listed in Appendix A, referenced by Clark and others (1984), is given in years. These are generally minimum and maximum ages of offset features. These features include a wide range of geologic, biologic and cultural features that allow fault displacements to be measured or estimated and dated. Among the dating methods used were: radiometric dating of volcanic rocks; soil profile development; soil or geomorphology correlations; historic records; dendrochronology (tree rings); amino acid and uranium series on mollusks; carbon 14 on charcoal and organic sediments; paleontology; and sea-level curves.

# Blind Thrust Faults

Blind thrust faults typically are low angle structures in areas of active folding, such as the Transverse Ranges of southern California. The upper extent of the fault plane may terminate several kilometers below the ground surface and the surface expression is often delineated by young anticlines. These faults can be seismogenic (Stein and Yeats, 1989) and have produced strong earthquakes in California, such as the 1983 Mw 6.4 Coalinga and 1994 Mw 6.7 Northridge earthquakes. Although significant work has been done on identifying blind thrust faults and associated folds. especially in the southern California area (Plesch and others, 2007), we have decided to continue the practice of showing faults that displace the surface, as well as near surface concealed faults, on the 2010 Fault Activity Map of California. The National Seismic Hazard Maps incorporate blind thrust fault models in California, specifically in the southern Transverse Ranges/northern Peninsula Ranges boundary, Santa Barbara Channel, and along the western margin of the Great Valley (WGCEP, 2008). Consult this reference for information on location and characterization of blind thrust faults.

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# **APPENDIX A**

# **CLASSIFIED FAULTS**

(For complete references see Appendix C) Note: The names following the abbreviation EFZ (Earthquake Fault Zone) are the quadrangles issued by the State showing the boundaries of officially zoned faults.

#### 1

#### MAHOGANY MOUNTAIN FAULT ZONE Holocene; Quaternary Bryant, W A, 1990a Hart and others, 1991 EFZ: Dorris, Red Rock Lakes

#### 2

IKES MOUNTAIN FAULT AND UNNAMED FAULTS OF BUTTE VALLEY Late Quaternary; Quaternary Williams, H., 1949 (p. 54, Plate 1) Wood, P. R., 1960 Bryant, WA, 1990a Hart and others, 1991

#### 2A

MEISS LAKE FAULT Late Quaternary; Holocene Bryant, W A, 1990a Hart and others, 1991

#### 3

MOUNT HEBRON FAULT ZONE Late Quaternary? Bryant, W.A., 1990a Wood, P.R., 1960

#### 4

CEDAR MOUNTAIN FAULT ZONE Late Quaternary; Holocene Bryant, W.A., 1990a Hart and others, 1991 EFZ: Sams Neck, Dorris, Macdoel, Sheep Mtn., Bray, Sharp Mtn., Tennant, Gamer Mtn.

#### 5

GILLEM FAULT Late Quaternary; Quaternary Donnelly-Nolan and Champion, 1987 Donnelly-Nolan, J.M., 1989 Bryant, W.A., 1990e Hart and others, 1991

#### 6

BIG CRACK FAULT Late Quaternary Donnelly-Nolan and Champion, 1987 Donnelly-Nolan, J.M., 1989 Bryant, W.A., 1990e Hart and others, 1991 7 SURPRISE VALLEY FAULT Holocene; Late Quaternary Clark and others, 1984 (5,600-13,000 yrs.) Bryant, W.A., 1990b Hart and others, 1991 Hedel, C.W., 1984 EFZ: Fort Bidwell, Lake City, Cedarville, Warren Peak, Eagle Peak, Eagleville, Snake Lake

# 7A

GOOSE LAKE FAULT Late Quaternary Bryant, W.A., 1990d Hart and others, 1991 Lydon, P.A., 1969

# 7B

DAVIS CREEK FAULT Late Quaternary CDWR, 1963 Lydon, P.A., 1969 Bryant, W.A., 1990d Hart and others, 1991

# 7C

FITZHUGH CREEK FAULT Quaternary CDWR, 1963 Bryant, W.A., 1990d Hart and others, 1991

# 7D

JESS VALLEY FAULT Quaternary CDWR, 1963 Bryant, W.A., 1990d Hart and others, 1991

# 8

UNNAMED FAULT Late Quaternary Donnelly-Nolan, J.M., 1989 Muffler and others, 1989 (p. 200)

#### 9

UNNAMED FAULTS Holocene Donnelly-Nolan, J.M., 1989

#### 10

UNNAMED FAULTS Quaternary Bryant, W.A., 1990a Hart and others, 1991

# 11

EAST CEDAR MOUNTAIN FAULT ZONE (SOUTHERN PART) Holocene Bryant, W.A., 1990a Donnelly-Nolan, J.M., 1989 Hart and others, 1991 EFZ: Bray, Sharp Mountain, Tennant

#### 12

YELLOW BUTTE FAULT Quaternary Mack, S., 1960 Williams, H., 1949 (p. 53) 13 LOST MAN FAULT (OFFSHORE) Quaternary Clarke and Field, 1989 Clarke, S.H., Jr., 1992 (age, p. 215) Kelsey and Carver, 1988 (age, p. 4812) 13A UNNAMED FAULT SOUTH OF CRESCENT CITY (OFFSHORE) Quaternary? Clarke and Field, 1989 Clarke, S.H., Jr., 1993 14 **GROGAN FAULT (OFFSHORE)** Quaternary Clarke and Field, 1989 Clarke, S.H., Jr., 1992 (age, p. 215) Kelsey and Carver, 1988 (age, p. 4812) SEAWARD EDGE OF CASCADIA SUBDUCTION ZONE (OFFSHORE) Holocene Clarke and Field, 1989 Clarke, S.H., Jr., 1992 (p. 199, Fig. 2, p. 220) Carver, GA, 1993 Kelsey and others, 2005 Nelson and others, 2006 16 BALD MOUNTAIN-BIG LAGOON FAULT ZONE (OFFSHORE) Late Quaternary Clarke and Field, 1989 Clarke, S.H., Jr., 1992 (age, p. 215) Kelsey and Carver, 1988 (age, p. 4812) 17 LOST MAN FAULT Quaternary Aalto and others, 1981 Kelsey and Carver, 1988 18 SURPUR CREEK FAULT Quaternary Aalto and others, 1981 Kelsey and Carver, 1988 (Fig. 2) Wagner and Saucedo, 1987 19 FAULTS BENEATH MOUNT SHASTA Quaternary Williams, H., 1934 (p. 232, 234-236, 244) 20 ASH CREEK FAULT ZONE Quaternary Bryant, WA, 1990a Hart and others, 1991 21 BLACK FOX MOUNTAIN FAULT ZONE Quaternary Bryant, W.A, 1990a Hart and others, 1991 22 STEPHENS PASS FAULT Historic (1978 earthquake rupture) Bennett and others, 1979

Hart and others, 1991 Cramer, C.H., 1979 EFZ: Rainbow Mtn. 23 UNNAMED FAULTS Late Quaternary; Holocene? Hart and others, 1991 24 MAYFIELD FAULT ZONE Holocene Donnelly-Nolan, J.M., 1990 Wills, C.J., 1990a Hart and others, 1991 EFZ: Porcupine Butte, Indian Spring Mtn., East of Pondosa 25 UNNAMED FAULTS (PART OF MAYFIELD FAULT ZONE) Late Quaternary; Holocene Champion and Donnelly-Nolan, 1989 Donnelly-Nolan, J.M., 1989 Wills. C.J., 1990a Woodward-Clyde Consultants, 1987b Hart and others, 1991 26 LIKELY FAULT Quaternary; Late Quaternary Brvant, WA, 1990c and written communication 8/2/93 (late Quaternary in part) CDWR, 1963 Grose and Saucedo, 1993 Hart and others, 1991 Howard, J.K., 1988 (pre-Quaternary?) Potter, S.L., 1988 (pre-Quaternary) Weick, R.J., 1990 (Holocene in part?) 26A NELSON CORRAL FAULT Late Quaternary Bryant, WA, 1990c CDWR, 1963 Hart and others, 1991 27 PITTVILLE FAULT Late Quaternary; Holocene Wills, C.J., 1990a Woodward-Clvde Consultants, 1987b Hart and others, 1991 EFZ: Timbered Crater, Day, Pittville 28 McARTHUR FAULT Holocene Wills, C.J., 1990a Hart and others, 1991 Woodward-Clyde Consultants, 1987b EFZ: Fall River Mills, Cable Mtn., Jellico, Swains Hole 29 HAT CREEK FAULT Holocene Wills, C.J., 1990a Hart and others, 1991 Woodward-Clyde Consultants, 1987b EFZ: Hogback Ridge, Murken Bench, Old Station

Bryant, WA, 1990a

30 UNNAMED FAULTS (PARTS OF HAT CREEK AND McARTHUR FAULT ZONES) Late Quaternary and Holocene Wills, C.J., 1990a Hart and others, 1991 Woodward-Clyde Consultants, 1987b 30A ROCKY LEDGE FAULT Holocene Wills, C.J., 1990a Hart and others.1991 EFZ: Burney, Cassel, Burney Falls, Dana 31 WILLOW SPRINGS FAULT Not Holocene as earlier published (Sanborn, 1960) Howard, J.K., 1987 32 GROGAN FAULT (ALSO RED MOUNTAIN FAULT-NO. 77) Quaternary Aalto and others, 1988 Cashman and others, 1981, 1982 Carver, G.A., 1989b Manning and Ogle, 1950 McLaughlin and others, 2000 Kelsey and Carver, 1988 Wagner and Saucedo, 1987 33 **BALD MOUNTAIN FAULT** Quaternary Aalto and other, 1981 Carver, G.A., 1989b Cashman and others, 1982 Manning and Ogle, 1950 Wagner and Saucedo, 1987 34 **BIG LAGOON FAULT** Quaternary Aalto and other, 1981 Kelsey and Carver, 1988 (Fig. 2) Wagner and Saucedo, 1987 35 TRINIDAD FAULT (OFFSHORE) Late Quaternary Clarke and Field, 1989 Clarke, S.H., Jr., 1990 36 MAD RIVER FAULT ZONE (OFFSHORE) Holocene Clarke and Field, 1989 Clarke, S.H., Jr., 1990 37 LITTLE SALMON FAULT (OFFSHORE) Holocene Carver and others, 1989 (Holocene age) Clarke and Field, 1989 Clarke, S.H., Jr., 1992 (age, p. 211) 37A UNNAMED FAULTS (OFFSHORE) Late Quaternary: Quaternary Clarke and Field, 1989 Clarke. S.H., Jr., 1993

38 TRINIDAD FAULT Holocene Aalto and others, 1981 Carver, G A, 1989b Carver and others, 1982 Coppersmith, K.J., 1980 (Fig. B-1) Kilbourne, 1985a Rust, D., 1982 Smith, T.C., 1982b EFZ: Trinidad 39 **BLUE LAKE FAULT** Holocene Carver, G.A., 1989b Kelsey and Carver, 1988 (p. 4802) McLaughlin and others, 2000 40 MAD RIVER FAULT Holocene Carver, G.A., 1989b Hart and others, 1983 Kelsey and Carver, 1988 (p. 4802) McLaughlin and others, 2000 Smith, T.C., 1982b EFZ: Arcata North 41 **BAY ENTRANCE FAULT** Late Quaternary Woodward-Clyde Consultants, 1980 (Fig. C-1 and C-56) Wills, C.J., 1990e Hart and others, 1991

#### 42

FICKLE HILL FAULT Holocene; Late Quaternary Carver, GA, 1989b Hart and others, 1983 Kelsey and Carver, 1988 (p. 4802) McLaughlin and others, 2000 EFZ: Arcata South, Arcata North

#### 43

McKINLEYVILLE FAULT Holocene Carver, GA, 1989b Hart and others, 1983 Kelsey and Carver, 1988 (p. 4802) Smith, T.C., 1982b EFZ: Arcata North, Arcata South, Korbel

#### 44

EATON ROUGHS FAULT ZONE Quaternary Kelsey and Carver, 1988 Aalto and others, 1988 McLaughlin and others, 2000 Kelsey and Allwardt, 1987

#### 45

NORTH SPIT FAULT Quaternary Earth Sciences Associates, 1976 (p. 10 and 11) Woodward-Clyde Consultants, 1980 (Fig. B-1) 46 EAST TRACE LITTLE SALMON FAULT Late Quaternary Carver, GA, 1989a Wills, C.J., 1990e

#### 47

Holocene Carver, G.A., 1989a, 1989b Carver and others, 1989 Clarke and Carver, 1991, (250 Years B.P.) Wills, C.J., 1990e Hart and others, 1983, 1991 Kelsey and Carver, 1988 Woodward-Clyde Consultants, 1980 (Appendix, C43, and Fig. C-1) EFZ: Fields Landing, Fortuna, Hydesville

#### 47A

TABLE BLUFF FAULT Late Quaternary Carver, GA, 1993 McLaughlin and others, 2000

#### 47B

UNNAMED FAULTS WEST OF HUMBOLDT BAY (OFFSHORE) Late Quaternary Clarke, S.H., Jr., 1993

#### 48

RUSS FAULT ZONE (OFFSHORE) Late Quaternary Clarke, S.H., Jr., 1992 (p. 208, late Quaternary?) Clarke and Field, 1989 McLaughlin and others, 2000

#### 49

BEAR RIVER FAULT ZONE (OFFSHORE) Quaternary McLaughlin and others, 2000 Clarke and Field, 1989; personal communication 3/12/90

# 50

FRESHWATER FAULT Quaternary Carver, G.A., 1989b Ellen and others,, 1989 McLaughlin and others, 2000

#### 51

YAGER FAULT Late Quaternary Carver, G.A., 1989b Hart and others, 1983; 1991 McLaughlin and others, 2000 Wills, C.J., 1990e

### 52

GOOSE LAKE FAULT Holocene Carver and others, 1982 Hart and others, 1983

Kelsey and Carver, 1988 (p. 4803) Wills, C.J., 1990e Woodward-Clyde Consultants, 1980 EFZ: Hydesville 53 SALT CREEK FAULT Pre-Quaternary Blake, M.C., Jr., 1989 (personal communication) Ellen and others, 1989 Fraticelli and others, 1987

# 54

BEAR WALLOW FAULT Pre-Quaternary Blake, M.C., Jr., 1989 (personal communication) Ellen and others, 1989 Fraticelli and others, 1987

### 55

BATTLE CREEK FAULT Late Quaternary; Quaternary Harwood and Helley, 1987 (p. 23) Helley and others, 1981 U.S. Army Corps of Engineers, 1986 (p. 29)

### 56

ALMANOR FAULT ZONE Late Quaternary; Quaternary Dudley, T., 1986 Wills, C.J., 1990c Kelson and others, 1995

#### 57

UNNAMED FAULT ON SOUTHEAST SIDE OF EAGLE LAKE Late Quaternary Clark and others,1984 (100,000 -240,000 yrs.) Wills, C.J., 1990b

#### 58

UNNAMED FAULT NORTHWEST OF SUSANVILLE Quaternary Clark and others, 1984 (700,000-1,900,000 yrs) Grose and others, 1991 Wills, C.J., 1990b

#### 59

UNNAMED FAULT AT NORTHWEST CORNER OF HONEY LAKE Holocene

Grose and others, 1991 Roberts, C.T., 1985 Wills, C.J., 1990d (Holocene) Hart and others, 1991

#### 60

HONEY LAKE FAULT ZONE Holocene; Quaternary Grose and others, 1991 Wills, C.J., 1990d Hart and others, 1991 EFZ: Standish, Stony Ridge, Milford, Herlong. McKesick Peak, Doyle, Constantia

# 61

WARM SPRINGS VALLEY FAULT AND UNNAMED FAULTS Holocene Wills, C.J., 1990d Hart and others, 1991 EFZ: Milford, Herlong, Calneva Lake. Doyle

62 FORT SAGE FAULT Historic (1950 earthquake rupture) Gianella. V.P., 1957 Grose and others, 1991 Wills, C.J., 1990d Hart and others, 1991 EFZ: Doyle 63 UNNAMED FAULTS BORDERING LONG VALLEY (PART OF HONEY LAKE FAULT ZONE) Holocene Wills, C.J., 1990d Hart and others, 1991 Grose, T.L.T., 2000a Saucedo, G.J., 1992 EFZ: Constantia 64 DIAMOND MOUNTAINS FAULT (LAST CHANCE FAULT ZONE) Late Quaternary Grose, T.L.T., 2000a Saucedo, G.J., 1992 65 UNNAMED FAULT (LAST CHANCE FAULT ZONE) Late Quaternary Grose, T.L.T., 2000a 66 INDIAN VALLEY FAULT Holocene? (in part) Dudley, T., 1986 Woodward-Clyde Consultants, 1978b 66A FAULTS SOUTH OF LAKE ALMANOR, INCLUCING CANTERBURY, MULESHOE MINE, PONDEROSA FLAT, ROCK LAKE, SKINNER FLAT, AND STOVER MOUNTAIN FAULTS OF THE BUTT CREEK FAULT ZONE Quaternary, Late Quaternary Sawyer and others, 1995 Pacific Gas & Electric Company, 1994 67 MEADOW VALLEY FAULT Quaternary Page and Sawyer, 2004 68 RICH BAR FAULT AT MEADOW VALLEY (BOTTLE SPRINGS FAULT) Quaternary Saucedo, G.J., 1992 Woodward-Clyde Consultants, 1977 Pacific Gas & Electric Company, 1993 68A HASKINS VALLEY FAULT Quaternary Pacific Gas & Electric Company, 1993 68B LITTLE GRASS VALLEY FAULT Late Quaternary' Pacific Gas & Electric Company, 1993 69 PARADISE FAULT Late Cenozoic; Quaternary? Dudley, T., 1988 Pacific Gas & Electric Company. 1993

70 COHASSET RIDGE FAULT Quaternary Woodward-Clyde Consultants, 1977 Pacific Gas & Electric Company, 1993 70A BEAVER CREEK FAULT Quaternary Pacific Gas & Electric Company, 1993 71 MAGALIA FAULT Late Cenozoic; Quaternary? Dudley, T., 1988 Pacific Gas & Electric Company, 1993 72 CHICO MONOCLINE FAULT Quaternary Harwood and Helley, 1987 (p. 20) Saucedo, G.J., 1992 73 CORNING FAULT Quaternary Blake and others, 1989 Harwood and Helley, 1987 (p. 9, 34) 74 **RED BLUFF FAULT** Pre-Quaternary Harwood and Helley, 1987 (p. 26) 75 WILLOWS FAULT ZONE Pre-Quaternary Harwood and Helley, 1987 (p. 7, 9) 76 COAST RANGE FAULT **Pre-Quaternary** Jayko and others, 1987 77 GROGAN-RED MOUNTAIN FAULT ZONE Age? Blake, M.C., Jr., 1989 (personal communication) Ellen and others, 1989 78 LAKE MOUNTAIN FAULT ZONE Late Quaternary Jayko and others, 1989 McLaughlin and others, 2000 Ellen and others, 1989 Herd, D.G., 1978a 79 GARBERVILLE FAULT ZONE Quaternary McLaughlin and others, 2000 Ellen and others, 1989 80 RUSS FAULT ZONE Late Quaternary; Quaternary Carver and others, 1982 (map p. 97) Ellen and others, 1989 Kelsey and Carver, 1988 McLaughlin and Ellen, 1989 McLaughlin and others, 2000

Ogle, B.A., 1953

81 BEAR RIVER FAULT ZONE Quaternary McLaughlin and others, 2000 McLaughlin and Ellen, 1989 82 PETROLIA THRUST FAULT Quaternary McLaughlin and others, 2000 McLaughlin and Ellen, 1989 83 MENDOCINO FAULT ZONE (OFFSHORE) Holocene?; Late Quaternary Clarke and Field, 1989 Clarke, S.H., Jr., 1990 McLaughlin and others, 2000 84 FAULT ALONG MATTOLE CANYON (OFFSHORE) (PART OF MENDOCINO FAULT ZONE) Late Quaternary? McLaughlin and others, 2000 85 KING RANGE THRUST ZONE Quaternary-Late Quaternary McLaughlin and Ellen, 1989 McLaughlin and others, 2000 86 BRICELAND FAULT (GARBERVILLE-BRICELAND FAULT ZONE) Quaternary Ellen and others, 1989 McLaughlin and others, 2000 87 SAN ANDREAS FAULT (SHELTER COVE) Historic (1906 earthquake ruptures) Brown, R.D., 1995 Hart, E.W., 1996 Prentice and others, 1999 EFZ: Shelter Cove 88 WHALE GULCH FAULT Late Quaternary McLaughlin and Ellen, 1989 McLaughlin and others, 2000 89 BEAR HARBOR FAULT ZONE Late Quaternary Beutner and others, 1980 McLaughlin and others, 2000 90 ROUND VALLEY FAULT ZONE (PART OF BARTLETT SPRINGS FAULT SYSTEM) Quaternary Bryant, W.A., 1993 dePolo and Ohlin, 1984 Jayko and others, 1989 McLaughlin and others, 2000 91 ETSEL RIDGE FAULT (PART OF BARTLETT SPRINGS FAULT SYSTEM) Quaternary? Bryant, W.A., 1993 Jayko and others, 1989

91A COTTONEVA FAULT **Pre-Quaternary** O'day, M.S., 1974 91B UNNAMED FAULT BY FORT BRAGG Pre-Quaternary Kramer, J.C., 1976 91C CHAMBERLAIN FAULT **Pre-Quaternary** Kramer, J.C., 1976 92 BARTLETT SPRINGS FAULT ZONE (PART OF BARTLETT SPRINGS FAULT SYSTEM) Historic (creep); Holocene; Quaternary Bryant, W.A., 1993 dePolo and Ohlin, 1984 McLaughlin and others, 1985a (age, p. 14) McLaughlin and others, 1990 Taylor and Swan, 1986 McFarland and others, 2009 (creep) 93 STONY CREEK FAULT Late Quaternary in part Earth Sciences Associates, 1980 Steele, W.C., 1979 94 UNNAMED FAULTS IN SUTTER BUTTES Quaternary Saucedo, G.J., 1992 95 CLEVELAND HILL FAULT Historic (1975 earthquake ground rupture); Quaternary Akers and McQuilkin, 1975 Clark and others, 1976 Hart and Rapp, 1975 Saucedo, G.J., 1992 EFZ: Bangor 96 SWAIN RAVINE FAULT (FOOTHILLS FAULT SYSTEM) Late Quaternary Bryant, W.A., 1983b Page and Sawyer, 2004

#### 97

MOHAWK VALLEY AREA (EAST OF CLIO) 1875 earthquake faults of Turner, 1897, not verified Grose, T.L.T., 2000c Smith, T.C., 1983b (p. 9)

Woodward-Clyde Consultants, 1977

# 98

MOHAWK VALLEY FAULT Holocene and Late Quaternary Grose, T.L.T., 2000c, 2000d Hawkins and others, 1986 Saucedo, G.J., 1992 Sawyer and others, 1993

Saucedo, G.J., 1992

99 DOG VALLEY FAULT UNNAMED FAULT (?) EFFECTS OF 1966 TRUCKEE EARTHQUAKE Historic (1966 earthquake ground breakage) Carter, B.H., 1966 Grose, T.L.T., 2000b Hawkins and others, 1986 Kachadoorian and others, 1967 99A UNNAMED FAULTS (SOUTHERN LAST CHANCE FAULT ZONE) Quaternary Grose, T.L.T., 1992, 2000b 100 UNNAMED FAULTS SOUTH AND EAST OF TRUCKEE Late Quaternary Latham, T.S., Jr., 1985 Saucedo, G.J., 1992 Wise and Sylvester, 2004 101 AGATE BAY FAULT Quaternary Saucedo, G.J., 2005 Schweickert and others, 2000 102 NORTH TAHOE FAULT Holocene Hyne and others, 1972 (p. 1440) Hawkins and others, 1986 (p. 56) Saucedo, G.J., 2005 103 MELONES FAULT ZONE OF CLARK (GIANT GAP FAULT) (FOOTHILLS FAULT SYSTEM) Quaternary? Saucedo, G.J., 1992 Woodward-Clyde Consultants, 1977 Pacific Gas & Electric Company, 1993 Page and Sawyer, 2004 104 BEAR MOUNTAINS FAULT ZONE (HIGHWAY 49 FAULT) Late Quaternary Borchardt and others, 1980 (p. 18-21: Smith property site) Bryant, W.A., 1983a Saucedo, G.J., 1992 Woodward-Clyde Consultants, 1977, 1978b Page and Sawyer, 2004 105 SPENCEVILLE FAULT (FOOTHILLS FAULT SYSTEM) Late Quaternary; Holocene? Borchardt and others, 1980 Bryant, W.A., 1983b Saucedo, G.J., 1992 Woodward-Clyde Consultants, 1977 Page and Sawyer, 2004 106 **RESORT FAULT ZONE** Quaternary McLaughlin and others, 1985a (p. 15-16) McLaughlin and others, 1990 107 BAD RIDGE FAULT Quaternary (Possibly late Pleistocene) McLaughlin and others, 1985a (p. 16) McLaughlin and others, 1990

108 LITTLE INDIAN VALLEY FAULT Quaternary McLaughlin and others, 1985a (p. 15) McLaughlin and others, 1990 109 CROSS SPRING FAULT Quaternary (in part) McLaughlin and others, 1985a McLaughlin and others, 1990 110 CLOVER VALLEY FAULT ZONE Quaternary Hearn and others, 1988 (Fig. 2) Sims and Rymer, 1976 111 FAULTS IN MT. KONOCTI AREA Holocene; Late Quaternary Bortugno, E.J., 1982 Bryant, W.A., 1982c Hart and others. 1983 EFZ: Clearlake Highlands, Kelseyville 112 **BIG VALLEY FAULT** Late Quaternary; Historic (1906 earthquake ruptures) Bryant, W.A., 1982c Clark and others, 1984 Hearn and others, 1981 Hearn and others, 1988 (p. 15) EFZ: Kelseyville 113 ADOBE CREEK FAULT Late Quaternary Clark and others, 1984 (120,000-450,000 yrs.) Hearn and others, 1988 114 MAACAMA FAULT ZONE (NORTHERN AND CENTRAL PARTS) Holocene; Historic (creep) Hart and others, 1983 McFarland and others, 2009 Pampeyan and others, 1981 Smith, T.C., 1981a,b,d Smith, T.C., 1982a Upp, R.R., 1989 EFZ: Hopland, Purdys Gardens, Elledge Peak, Ukiah, Redwood Valley, Willits NE, SE, and NW, Longvale, Laytonville 114A TWO ROCK FAULT Pre-Quaternary Kramer, J.C., 1976 Kilbourne, R.T., 1984 115 UNNAMED FAULTS Pre-Tertiary Manson, M.W., 1984 116 SPLAYS OFF SAN ANDREAS FAULT Late Quaternary Pacific Gas & Electric Company, 1971 Prentice, C.S., 1989 and personal communication 9/17/89

#### 117

NAVARRO STRUCTURAL DISCONTINUITY (OFFSHORE) Age?

Clarke and Field, 1989

### 118

HATHAWAY CREEK FAULT (AND UNNAMED FAULT TO WEST) Late Quaternary

Prentice, C.S., 1989 (p. 110) and personal communication 9/17/89

#### 119

SAN ANDREAS FAULT ZONE (FORT ROSS TO MANCHESTER) Historic (1906 earthquake rupture); Late Quaternary Blake and others, 1971 Brown and Wolfe, 1972 Prentice, C.S., 1989, written communication 2008 EFZ: Arched Rock, Fort Ross, Plantation, Annapolis, Stewarts Point, SW 1/4 Ornbaun Valley, Gualala, NE 1/4 Point Arena, Point Arena, Mallo Pass Creek

#### 120

COLLAYOMI FAULT Late Quaternary Bortugno, E.J., 1982 Bryant, WA, 1982c (p. 15, Figs. 2b, 2c, 2d) Hart and others, 1983 Hearn and others, 1976 McLaughlin, R.J., 1978

#### 121

HUNTING FAULT Quaternary Bortugno, E.J., 1982 Lawton, J.E., 1956

#### 122

HUNTING CREEK FAULT Holocene Bryant, WA, 1982b Hart and others, 1983 EFZ: Jericho Valley, Knoxville

#### 123

CAPAY FAULT Pre-Quaternary? Harwood and Helley, 1987 (p. 29)

#### 124

DUNNIGAN HILLS (ZAMORA) FAULT AND ADJACENT AREA Late Pleistocene; Holocene? Bryant, WA, 1982e (questions Holocene age) Bryant, W.A., 2010 (may be fold scarp rather than surface fault) Helley and Herd, 1977 Harwood and Helley, 1987 (p. 29) Helley and Barker, 1979

#### 125

DEWITT FAULT (FOOTHILLS FAULT SYSTEM) Late Quaternary; Holocene? Borchardt and others, 1980 Bryant, WA, 1983b Woodward-Clyde Consultants, 1977 Page and Sawyer, 2004 126
BEAR MOUNTAINS FAULT ZONE (MAIDU EAST FAULT) (FOOTHILLS FAULT SYSTEM)
Late Quaternary? Bryant, W.A., 1983a Woodward-Clyde Consultants, 1977, 1978b Borchardt and others, 1980 Page and Sawyer, 2004
127
BEAR MOUNTAINS FAULT ZONE (RESCUE FAULT) (FOOTHILLS FAULT SYSTEM)
Late Quaternary Bryant, W.A., 1983d

Woodward-Clyde Consultants, 1977, 1978b

128

GENOA FAULT (ALSO CALLED CARSON VALLEY FAULT) Holocene Clark and others, 1984 Armin and John, 1983

Dohrenwend, J.C., 1982 Smith, T.C., 1984a EFZ: Markleeville, Woodfords, Minden

#### 129

UNNAMED FAULT Late Quaternary and/or Holocene Dohrenwend, J.C., 1981a, 1982

Page and Sawyer, 2004

#### 129A

UNNAMED FAULT Quaternary; Pre-Quaternary Dohrenwend, J.C., 1982 John and others, 1981 Stewart and others, 1982

#### 130

ANTELOPE VALLEY FAULT AND ADJACENT FAULTS Holocene; Quaternary Bryant, W.A., 1984a Hayes, G.F., 1985 (p. 66-68) Dohrenwend, J.C., 1982 John and others, 1981 EFZ: NE 1/4 and SE 1/4 Topaz Lake, SW 1/4 Desert Creek Peak

# 131

SLINKARD VALLEY FAULT Late Quaternary Bryant, WA. 1983c Dohrenwend, J.C., 1982 John and others, 1981 Hayes, G.F., 1985 (p. 69)

131A UNNAMED FAULTS Pre-Quaternary Stewart and others, 1982

132 WEST WALKER RIVER FAULT Holocene; Late Quaternary Bryant. W.A., 1983c Dohrenwend, J.C., 1982 Clark, M.M., 1967 Clark and others, 1984 Hayes, G.F., 1985 EFZ: Fales Hot Springs 133

MONO LAKE FAULT (LEE VINING FAULT) ROBINSON CREEK FAULT (IN PART BRIDGEPORT BASIN FAULT OF M. CLARK) UNNAMED FAULTS Holocene; Late Quaternary; Quaternary Bryant, W.A., 1984b Bryant, W.A., 1984d Clark and others, 1984 (10,000 -13,000 yrs) Dohrenwend, J.C., 1982 Hayes, G.F., 1985 (p. 88-90) Bailey, R.A., 1989 EFZ: NW 1/4 and NE 1/4 Mono Craters, SW 1/4 and NW 1/4 Bodie, NE 1/4 Matterhorn Peak, SW 1/4 Bridgeport, Fales Hot Springs. SE 1/4 Fales Hot Springs

#### 134

UNNAMED FAULTS Quaternary Dohrenwend, J.C., 1982

#### 135

MELONES FAULT ZONE (POORMAN GULCH FAULT) (FOOTHILLS FAULT SYSTEM) Late Quaternary; Holocene? Bryant. W.A., 1983a (Fig. 3) Woodward-Clyde Consultants, 1977, 1978c (Fig. C.4-2) Page and Sawyer, 2004

#### 136

BEAR MOUNTAINS FAULT ZONE (YOUNGS CREEK FAULT) (FOOTHILLS FAULT SYSTEM) Quaternary Bryant. W.A., 1983d (Fig. 3) Woodward-Clyde Consultants, 1977, 1978c (Fig. C.4-2) Pacific Gas & Electric Company, 1993 Page and Sawyer, 2004

## 137

MIDLAND FAULT ZONE Quaternary (possibly Holocene in part) Harwood and Helley, 1987 (Plate 1) Weber-Band, J., 1998

#### 138

EAST VALLEY FAULT Pre-Quaternary Harwood and Helley, 1987 (p. 27)

#### 139

WEST VALLEY FAULT Pre-Quaternary Harwood and Helley, 1987 (p. 27, 29)

#### 140

UNNAMED FAULTS EAST OF LAKE BERRYESSA Quaternary? Bortugno, E.J., 1982 Hart and others, 1983 Helley and Herd, 1977

#### 141

MAACAMA FAULT ZONE (SOUTHERN PART) Holocene Bortugno, E.J., 1982 Bryant. W.A., 1982a Hart and others, 1983 McLaughlin, R.J., 1978

McLaughlin and others, 2004 Smith, T.C., 1982a EFZ: Mark West Springs, Mount St. Helena. Jimtown, Gevserville. Asti 142 HEALDSBURG FAULT Quaternary Bortugno, E.J., 1982 Bryant, WA. 1982a EFZ: Healdsburg, Santa Rosa 143 BENNETT VALLEY FAULT ZONE Late Quaternary Bortugno, E.J., 1982 Delattre and others, 2007 McLaughlin and others, 2008 Herd and Helley, 1977 Wagner and others, 2003 144 UNNAMED FAULTS NORTHWEST OF SANTA ROSA NEAR TRENTON Late Quaternary Bortugno, E.J., 1982 Herd and Helley, 1977 145 SAN ANDREAS FAULT ZONE (OFFSHORE) Late Quaternary Bortugno, E.J., 1982 McCulloch, D.S., 1989a 146 **BLOOMFIELD FAULT** Quaternary Bezore and others, 2003 Bortugno, E.J., 1982 146A AMERICANO CREEK FAULT Quaternary Bortugno, E.J., 1982 147 SAN ANDREAS FAULT ZONE (BODEGA HEAD TO BOLINAS) Historic (1906 earthquake rupture); Holocene Brown and Wolfe, 1972 EFZ: Duncans Mills. Bodega Head, Valley Ford, Tomales, Drakes Bay, Point Reyes NE, Inverness, Double Point, Bolinas 148 POINT REYES FAULT (OFFSHORE) Quaternary Bortugno, E.J., 1982 McCulloch and Greene, 1990 Ryan and others, 2008 149 RODGERS CREEK FAULT Holocene Bortugno, E.J., 1982 Bryant, W.A., 1982a Hart, E.W., 1982, 1992 Jennings, CW., 1988 Randolph-Loar, 2002 Wagner and others, 2002a, 2002b, 2003 EFZ: Sears Point, Petaluma River, Glen Ellen, Cotati, Santa Rosa, Mark West Springs, Healdsburg

150 TOLAY FAULT Quaternary? Clahan and others, 2003 Hart and others, 1981 Lawton and others, 1977 150A BURDELL MOUNTAIN FAULT Quaternary Bortugno, E.J., 1982 Bezore and others, 2002 Wagner and others, 2002b 151 UNNAMED FAULT WEST OF CARNEROS CREEK Quaternary Bortugno, E. J., 1982 Hart and others, 1983 Helley and Herd, 1977 152 WEST NAPA FAULT ZONE Holocene in southern part; late Quaternary in northern part Bortugno, E.J., 1982 Bryant, W.A., 1982g Clahan and others, 2004 Hart and others, 1983 Helley and Herd, 1977 EFZ: Cuttings Wharf, Cordelia 153 SODA CREEK FAULT Late Quaternary Bortugno, E.J., 1982 Hart and others, 1983 Bezore and others, 2005 Clahan and others. 2004 154 **GREEN VALLEY FAULT** Holocene; creep Bortugno, E.J., 1982 McFarland and others, 2009 (creep) Hart and others, 1983 Baldwin and others, 1998 Bryant, W.A., 1982f, 1992c EFZ: Mt. George. Cordelia, Fairfield South, Port Chicago (Vine Hill) 155 CORDELIA FAULT Holocene in southern part; late Quaternary in northern part Bortugno, E.J., 1982 Bryant, W.A., 1981a, 1991b Hart and others, 1983 Helley and Herd, 1977 EFZ: Cordelia 156 VACA FAULT KIRBY HILL FAULT Late Quaternary? Clark and others, 1984 (10.000-120,000 yrs) Hart and others, 1983 Knuepfer, P.L., 1977 Graymer and others, 2006 157 **RIO VISTA FAULT** Quaternary? Bryant. W.A., 1982d Hart and others, 1983 Shlemon and Begg, 1975

158 FERNDALE FAULT Quaternary McLaughlin and others, (2000) 159 DAVIS FAULT (ANTIOCH FAULT REMOVED) Quaternary Bortugno and others, 1991 Wills, C.J., 1991, 1992 (not Holocene) 160 CONCORD FAULT Historic (active creep); Holocene Bortugno and others, 1991 Wills and Hart, 1992a, 1992b McFarland and others, 2009 (creep) Helley and Herd, 1977 Sharp, R.V., 1973 Sims and others, 1973 EFZ: Port Chicago (Vine Hill), Walnut Creek, Clayton 161 PINOLE FAULT Quaternary Graymer and others, 2006 162 SAN ANDREAS FAULT (BOUNDARY FAULTS) Late Quaternary Bortugno and others, 1991 Galloway, A.J., 1977 Wagner, D.L, 1977 EFZ: Bolinas 163 HAYWARD FAULT (NORTHERN PART) Historic (1868 earthquake rupture; creep); Holocene Bonilla, M.G., 1970 Bortugno and others, 1991 Hart, E.W., 1979c Hart and others, 1981 Louderback, G.D., 1947 Lienkaemper, J.J., 2008 McFarland and others, 2009 Smith. T.C., 1980a, 1980b EFZ: Mare Island, Richmond, Oakland East, Oakland West, San Leandro, Hayward, Newark, Niles, Milpitas 164 SHERBURNE HILLS FAULT Quaternary Bortugno and others, 1991 Hart and others, 1981 165 MARSH CREEK FAULT AND CLAYTON FAULT Holocene; Quaternary; Bortugno and others, 1991 166 MIDWAY FAULT Late Quaternary Clark and others, 1984 (100,000-600,000 yrs) Sowers and others, 1993b 167 VERNALIS FAULT Quaternary? Bartow, J.A., 1991 (p.8)

168 BEAR MOUNTAINS FAULT ZONE (BOWIE FLAT FAULT) (FOOTHILLS FAULT SYSTEM) Late Quaternary Bryant, W.A., 1983d (Fig. 3) Woodward-Clyde Consultants, 1977, 1978a, 1978c (Fig. C.4-2) Pacific Gas & Electric Company, 1993 Page and Sawyer, 2004 169 MELONES FAULT ZONE (RAWHIDE FLAT EAST FAULT) (FOOTHILLS FAULT SYSTEM) Late Quaternary Bryant, W.A., 1983d (Fig. 3) Woodward-Clyde Consultants, 1977, 1978a, 1978c (Fig. C.4-2)Page and Sawyer, 2004 170 MELONES FAULT ZONE (RAWHIDE FLAT WEST FAULT) (FOOTHILLS FAULT SYSTEM) Late Quaternary Bryant, W.A., 1983d (Fig. 3) Woodward-Clyde Consultants, 1977, 1978a, 1978c (Fig. C.4-2) Page and Sawyer, 2004 171 BEAR MOUNTAINS FAULT ZONE (NEGRO JACK POINT FAULT) (FOOTHILLS FAULT SYSTEM) Late Quaternary Bryant, W.A., 1983d (Fig. 3) Woodward-Clyde Consultants, 1977, 1978a, 1978c (Fig. C.4-2) Pacific Gas & Electric Company, 1993 Page and Sawyer, 2004 172 BLACK BUTTE FAULT Quaternary Bartow, J.A., 1991 (p.8) Bortugno and others, 1991 Noller and others, 1993 Sowers and others, 1993b 172A CARNEGIE FAULT Holocene in part Carpenter and others, 1991 Sowers and others, 1993b 173 CORRAL HOLLOW FAULT Quaternary Bortugno and others, 1991 Sowers and others, 1993b 174 **GREENVILLE FAULT** Late Quaternary; Historic (1980 earthquake rupture); Quaternary Bolt and others, 1981 Bortugno and others, 1991

Bortugno and others, 1991 Hart, E.W., 1981b EFZ: Tassajara, Byron Hot Springs, Altamont, Midway, Cedar Mtn., Eylar Mountain 175 LIVERMORE FAULT Quaternary Carpenter and others, 1984 176 PLEASANTON FAULT Holocene; Quaternary Hart, E.W., 1981a Herd, D.G., 1978b EFZ: Dublin, Livermore, La Costa Valley 177 CALAVERAS FAULT (NORTHERN PART) Historic (1861); Holocene; Late Quaternary Radbruch, D.H., 1968 Bortugno and others, 1991 Brewer, W.H., 1930 (1861 ground cracks, p. 185) Bryant, W.A., 1981d Graymer and others, 2006 Hart. E.W., 1981a Hart and others, 1981 Herd, D.G., 1978b EFZ: Diablo, Dublin, Niles, La Costa Valley, Calaveras Reservoir, Mt. Day, Lick Observatory 178 SAN BRUNO FAULT (DELETED) Bonilla and others, 2000 U.S. Geological Survey, 1997 179 SERRA FAULT ZONE Late Quaternary, Holocene in part Bortugno and others, 1991 Brabb and others, 1998a Brabb and Olson, 1986 Hart and others, 1981 Kennedy, D.G., 2002 Hengesh and others, 1996 179A HILLSIDE FAULT Pre-Quaternary Brabb and Pampeyan, 1983 180 STRUCTURAL DISCONTINUITIES (OFFSHORE) Age? McCulloch and Greene, 1990 (Discontinuities separating differing Neogene structural domains. May indicate discontinuities between basement rocks) 181 SEAL COVE FAULT (SAN GREGORIO FAULT ZONE) Holocene; Late Quaternary; creep?; Quaternary Bortugno and others, 1991 Brabb and Olson, 1986 (creep) Brabb and others, 1998a Galehouse, J.S., 1992 Hart and others, 1981 Rvan and others, 2008 EFZ: Montara Mountain, Half Moon Bay 182 MISSION FAULT Quaternary Bortugno and others, 1991 Bryant, W.A, 1980a Graymer and others, 2006

183 **VERONA FAULT** Holocene? Bortugno and others, 1991 Hart and others, 1981 Herd and Brabb, 1980 Smith, D.P., 1981 EFZ: La Costa Valley 184 LAS POSITAS FAULT Historic (possible 1980 and 1981 ruptures); Holocene; Late Quaternary Bortugno and others,,1991 Hart and others, 1981 Herd, D.G., 1977 Smith, T.C., 1981h EFZ: Altamont 185 WILLIAMS FAULT Late Quaternary? Bortugno and others, 1991 Hart and others, 1981 Smith. D.P., 1981 Graymer and others, 2006 186 SECONDARY CRACKS (?) ADJACENT TO HAYWARD FAULT Historic; 1868 earthquake cracks? Bonilla, M.G., 1970 Lawson and others, 1908 Radbruch, D.H., 1974 187 CALAVERAS FAULT (CENTRAL PART) Holocene; Historic (minor 1979 and 1984 fault break at Anderson Lake and south of Coyote Reservoir); Late Quaternary

Armstrong, C.F., 1979 Bortugno and others, 1991 Bryant and others, 1981 Hart and others, 1981 Lee and others, 1979 EFZ: Calaveras Reservoir, Mt. Day, San Jose East, Lick Observatory, Morgan Hill, Mt. Sizer, Gilroy, Gilroy Hot Springs, San Felipe, Hollister, Tres Pinos, Paicines, Cherry Peak

#### 188

CROSLEY FAULT Holocene (in part) Bortugno and others, 1991 Hart and others, 1981 Bryant, W.A., 1980a EFZ: Calaveras Reservoir

#### 189

CONCEALED FAULTS IN SOUTH S.F. BAY AREA Quaternary; Late Quaternary Bortugno and others, 1991 California Department Water Resources, 1967 Parnpeyan, E.H., 1979 Wentworth and others. 2010

### 190

MONTE VISTA FAULT Late Quaternary, Holocene Bortugno and others, 1991 Brabb and Olson, 1986 Brabb and others, 1998b, 2000 Graymer and others, 2006

Hart and others, 1981 Hitchcock and others, 1994 Hitchcock and Kelson, 1999 Sorg and McLaughlin, 1975, 1980 191 PILARCITOS FAULT Quaternary Bortugno and others, 1991 Brabb and Olson, 1986 Brabb and others, 1998b 192 FRIJOLES FAULT Holocene; Quaternary Bortugno and others, 1991 Brabb and Olson, 1986 Clark and others, 1984 (8,400-200,000 yrs) Hart and others, 1981 Smith, T.C., 1981f Weber and Lajoie, 1979, 1980 193 **BUTANO FAULT** Quaternary ? Bortugno and others, 1991 Brabb and Olson, 1986 Brabb and others, 1998b McLaughlin and others, 2001 194 SAN ANDREAS FAULT ZONE (SAN FRANCISCO TO WATSONVILLE) Holocene Historic (1906, 1838 earthquake ruptures; 1989 Lorna Prieta1989 local earthquake fractures) Louderback, G.D., 1947 Bonilla, M.G., 1970 Brown, R. 1972 Bryant, W.A., 1981f, 1991a Hall and others, 1974 Graymer and others, 2006 EFZ: San Francisco South, Montara Mountain, San Mateo, Half Moon Bay, Woodside, Palo Alto, Mindego Hill, Cupertino, Castle Rock Ridge, Los Gatos, Laurel, Lorna Prieta, Mt. Madonna, Watsonville East, Chittenden 195

**BERROCAL FAULT** Quaternary Bortugno and others, 1991 Brabb and others, 2000 Gravmer and others, 2006 Hart and others, 1981 McLaughlin and others, 2001 Sorg and McLaughlin, 1975, 1980

#### 196

HAYWARD FAULT (SOUTHERN PART) Holocene Bortugno and others, 1991 Bryant, W.A., 1980a Hart and others, 1981 EFZ: Calaveras Reservoir, Milpitas, San Jose East, Lick Observatory

# 197

**EVERGREEN FAULT** Holocene Bortugno and others, 1991 Bryant, W.A., 1980a, 1981e Hart and others, 1981 EFZ: San Jose East

198 SILVER CREEK FAULT (SEE ALSO 189) Quaternarv Bortugno and others, 1991 Hart and others, 1981 Wentworth and others, 2010 199 HAYWARD FAULT (SOUTHEAST EXTENSION) Holocene Bortugno and others, 1991 Bryant, W.A., 1980a, 1981e Graymer and others, 1995 Hart and others, 1981 EFZ: Calaveras Reservoir, San Jose East, Lick Observatory 200 SAN JOAQUIN FAULT Late Quaternary Bartow, J.A., 1991 (p. 8-9) Clark and others, 1984 (100,000 - 600,000 yrs) Herd, D.G., 1979 Lettis, W.R., 1985 (p. 97, 107, 108) Lettis, W.R., 1988 (p. 343) Noller and others, 1993 Sowers and others, 1993a 201 HARTLEY SPRINGS FAULT SILVER LAKE FAULT (PARKER LAKE FAULT) UNNAMED FAULTS Historic (1980); Holocene; Late Quaternary; Quaternary Bailey, R.A., 1989 Bryant, W.A., 1984f Clark and others, 1984 Taylor and Bryant, 1980 EFZ: NE ¼ Devils Postpile, SE ¼ Mono Craters 202 HILTON CREEK FAULT, UNNAMED FAULTS Historic (1980); Holocene; Quaternary Bailey and Koeppen, 1977 Berry, E.B., 1990 Bryant, W.A., 1981b Clark and others. 1982 Clark and others, 1984 (10,000-20,000 yrs) Sherburne, R.W., 1980 Taylor and Bryant, 1980 EFZ: NE 1/4, NW ¼, and SE ¼ Mt. Morrison 202A LONG VALLEY FAULT ZONE Holocene Bailey, R.A., 1989 203 FAULTS EAST OF LAKE CROWLEY Late Quaternary; Holocene? Bryant, W.A., 1984e Bailey, R.A., 1989 204 WHITE MOUNTAINS FAULT ZONE (NORTHERN PART), BENTON VALLEY FAULT Holocene Hart, E.W., 1984a Smith, T.C., 1984b dePolo, C.M., 1989 EFZ: Montgomery Peak SW and NW

#### 205 EARTHQUAKE FAULT FRACTURES IN CHALFANT VALLEY Historic (1986 earthquake) Lienkaemper and others, 1987 dePolo and Ramelli, 1987

#### 206

FAULTS IN THE VOLCANIC TABLELAND, MONO AND INYO COUNTIES Holocene Bateman, P.C., 1965 Bryant, W.A., 1984e Crowder and Sheridan, 1972 EFZ: Rovana, SW ¼ and NW ¼ Bishop, White Mtn. SW

#### 207

ROUND VALLEY FAULT Holocene Bateman, P.C., 1965 Bailey, R.A., 1989 Bryant, W.A., 1984c, 1984i Rinehart and Ross, 1957 EFZ: Mount Tom, Mt. Morgan, SW ¼ Casa Diablo Mtn., Tungsten Hills

#### 208

FISH SLOUGH FAULT Holocene Bryant, 1984c, 1984g Crowder and Sheridan, 1972 EFZ: NW ¼ Bishop, White Mtn. SW

#### 209

WHITE MOUNTAINS FAULT ZONE (SOUTHERN PART)
Historic (1986 earthquake); Holocene; Late Quaternary Bryant, W.A., 1984d, 1988c
Hart and others, 1989
Lienkaemper and others, 1987
EFZ: White Mtn. SE, NE ¼ and SE ¼ Bishop, NE ¼ Big Pine, Tinemaha Reservoir, Uhlmeyer Spring, Fish Springs

# 210

DEEP SPRINGS FAULT Holocene; Late Quaternary Bryant, W.A., 1988a, 1989a Hart and others, 1989 Lee and others, 2001 Reheis and Sawyer, 1997 EFZ: Chocolate Mountain, Deep Springs Lake, Soldier Pass

#### 211

NORTHERN DEATH VALLEY FAULT ZONE (NORTH-CENTRAL SECTION DEATH VALLEY FAULT SYSTEM) Holocene; Late Quaternary Brogan and others, 1991 Bryant, W.A., 1988b Machette and others, 2001b Reheis and Noller, 1991 EFZ: Ubehebe Crater, Scottys Castle, East of Tin Mountain, Dry Bone Canyon, Fall Canyon, Mesquite Flat, Stovepipe Wells NE, Grotto Canyon, Beatty Junction 212 OWENS VALLEY FAULT Holocene; Historic (1872 earthquake ground rupture) Beanland and Clark, 1994 Brogan and others, 1991 Bryant, W.A., 1984c, 1984g, 1984h, 1988e Hobbs, W.H., 1910 Knopf, A., 1918 Martel, S.J., 1989 Nelson, C.A., 1966 Ross, D.C., 1965 Slemmons and others, 2008 Hart and others. 1989 EFZ: Fish Springs, Tinemaha Reservoir, Blackrock, Independence, Bee Springs Canyon, Manzanar, Union Wash, Lone Pine, Bartlett, Olancha 212A LONE PINE FAULT Historic (1872 earthquake); Late Quaternary Bryant, W.A., 1988e Lubetkin and Clark, 1988 EFZ: Lone Pine 212B **BIRCH MOUNTAIN FAULT** Holocene Clark, M.M., 1993 213 KINGS CANYON LINEAMENT Age? Antonnen and others, 1974 (satellite imagery lineament) Bartow, J.A., 1991 (p. 5-6) 214 **ORTIGALITA FAULT** Holocene Anderson and others, 1982 Clark and others, 1984 (5,000-15,000 yrs) Hart, E.W., 1985b Lettis, W.R., 1982, 1985 (p. 97) Manson, M.W., 1985a EFZ: Mustang Peak, Crevison Peak, Pacheco Pass, San Luis Dam, Los Banos Valley, Ortigalita Peak, Ortigalita Peak NW 215 COYOTE CREEK FAULT

Quaternary Bortugno and others, 1991 Dibblee, T.W., Jr., 1973b Hart and others, 1981

#### 216

SHANNON FAULT (INCLUDES BLOSSOM HILL FAULT) Holocene: Quaternary Bortugno and others, 1991 Hart and others, 1981 Hitchcock and others, 1994 Hitchcock and Kelson, 1999 McLaughlin, R.J., 1989 McLaughlin and others, 2001 Rubin and others, 2004

#### 217

GROUND "FRACTURES' ASSOCIATED WITH LOMA PRIETA EARTHQUAKE Historic (1989 earthquake) Plafker and Galloway, 1989

U.S. Geological Survey Staff, 1989 Bryant, W.A., 1991a Aydin and others, 1992 EFZ: Los Gatos. Laurel 218 SAN GREGORIO FAULT Holocene; creep Bortugno and others, 1991 Brabb and Olson, 1986 Galehouse, J.S., 1992 (creep) Hart and others, 1981 McCullough and Greene, 1990 (offshore) Wagner and others, 2002c EFZ: Ano Nuevo, Franklin Point 219 ASCENCION FAULT (OFFSHORE) Quaternary McCulloch and Greene, 1990 220 ZYANTE FAULT Late Quaternary; Quaternary; Holocene Brabb and others, 1998b Bortugno and others, 1991 Buchanan-Banks and others, 1978 Clark and others, 1984 (5,000-15,000 and 75,000-115,000 yrs) Clark and others, 2001 Hall and others, 1974 Hart and others, 1981 McLaughlin and others, 2001 Pampeyan, E.H., 1979 EFZ: Watsonville East, Watsonville West 221 **BEN LOMOND FAULT** Late Quaternary at southern end Stanley and McCaffrey, 1983 222 SARGENT FAULT Holocene; Historic (creep) Bortugno and others, 1991 Brvant and others, 1981 Buchanan-Banks and others, 1978 Hart and others, 1981 McLaughlin and others, 2001 Sorg and McLaughlin, 1975 Prescott and Burford, 1976 EFZ: Watsonville East, Chittenden, San Felipe 223 FISH LAKE VALLEY FAULT ZONE (NORTHERN SECTION DEATH VALLEY FAULT SYSTEM) Holocene Brogan and others, 1991 Bryant, W.A., 1988b Machette and others, 2001b Reheis, M. C., 1991

224

Reheis and Noller, 1991

Last Chance Mtn., Tule Canyon

CALAVERAS FAULT (SOUTHERN PART)

Historic (creep); Holocene; Late Quaternary

Bryant, W.A., 1979, 1981c, 1985c

EFZ: Dyer, Station Peak, Indian Garden Creek,

Chocolate Mtn., Sylvania Canyon, Horse Thief Canyon,

Sawyer, T.A., 1991

Rogers, T.H., 1980

EFZ: Hollister, San Felipe

225 QUIEN SABE FAULT Holocene; Late Quaternary Bryant, W.A., 1985c Hart and others, 1986 Dibblee and Rogers, 1975 EFZ: Three Sisters

# 226

O'NEILL FAULT SYSTEM Late Quaternary Bartow, J.A., 1991 (p. 9) Bortugno and others, 1991 Clark and others, 1984 (100,000-600,000 yrs) Lettis, W.R., 1982 Lettis, W.R., 1985 (p. 97,107,108)

#### 227

PAICINES FAULT SAN BENITO FAULT ZONE Holocene; Late Quaternary; Quaternary Bryant, W.A., 1985c Dibblee, T.W., Jr., 1979a, 1979b, 1979c Hart and others, 1986 EFZ: Tres Pinos, Paicines, Cherry Peak

### 228

VERGELES FAULT Late Quaternary; Buchanan-Banks and others, 1978 Coppersmith, K.J., 1979 Clark and others, 1984 (75,000-115,000 yrs) Wagner and others, 2002c

### 229

MONTEREY BAY FAULT ZONE (OFFSHORE) Holocene; Quaternary McCulloch and Greene, 1990 Wagner and others, 2002c

#### 230

PALO COLORADO FAULT (OFFSHORE AND ONSHORE) Quaternary; Holocene? Bryant, W.A., 1985a Clark and Rosenberg, 1999 Dibblee, T.W., Jr., 1974a Hart, E.W., 1989 McCulloch and Greene, 1990 (offshore) Wagner and others, 2002c

#### 231

CYPRESS POINT FAULT Quaternary (offsets Quaternary deposits offshore) Clark and others, 1974 Rosenberg and Clark, 1994

#### 232

NAVY FAULT Quaternary Clark and others, 1974, 1997 Hart and others, 1986 Wagner and others, 2002c

#### 233

ORD TERRACE FAULT Quaternary? Clark and others, 1974, 1997 Hart and others, 1986 Wagner and others, 2002c 234 SAN ANDREAS FAULT ZONE (SAN JUAN BAUTISTA TO PRIEST VALLEY) Historic (1906, 1890 earthquake ruptures) Brown, R.D., Jr., 1970 Bryant, W.A., 1980c, 1985c Clark, J.C., 1970 Dibblee, T.W., Jr., 1971a Holden, E.S., 1898 Lawson and others, 1908 Wilson, I.F., 1943 EFZ: San Juan Bautista, Hollister, Paicines, Cherry Peak, Bickmore Canyon, San Benito, Topo Valley, Rock Spring Peak, Lonoak. Hepsedam Peak, Monarch Peak, Priest Valley 235 CHUPINES FAULT Quaternary Bowen, O.E., Jr., 1969 Clark and others, 1974, 1997, 2000 Hart and others, 1986

#### 236

TULARCITOS FAULT Quaternary; Late Quaternary (in part) Clark and others, 1997 Dibblee, T.W., Jr., 1974a Hart and others, 1986 McKittrick, M.A., 1987 Rosenberg, L.I., 1993

# 237

SUR FAULT Quaternary Hart and others, 1986 Hall, C.A., 1991 Bryant. W.A., 1985a McCulloch and Greene, 1990

#### 238

PALEO-SUBDUCTION ZONE (OFFSHORE) Age? McCulloch and Greene, 1990

#### 239

RINCONADA FAULT ZONE RELIZ FAULT Late Quaternary Clark and others, 2000 Dibblee, T.W., Jr., 1971a, 1976 (p. 36, 52, 53, late Quaternary) Greene and others, 1973 Hart, E.W., 1976, 1985a Hart and others, 1986 (Table 1 and Plate 1 -Espinosa and San Marcos segments) Tinsley, J.C., III, 1975 (age of faulting p.149-155.)

# 240

FURNACE CREEK FAULT Quaternary Reheis and Noller, 1991

#### 241

NUNEZ FAULT Historic (1983 earthquake break) Hart, E.W. 1984b Hart and McJunkin, 1983 Rymer and others, 1990 EFZ: Alcalde Hills

#### 242

**CLOVIS FAULT** Pre-Quaternary dePolo, C.M., 1983 (p. 2-4) Page and Leblanc, 1969

#### 243

INDEPENDENCE FAULT Late Quaternary; Holocene Bryant, W.A., 1989b Gillespie, A.A., 1982 Clark and others, 1984 (10,500-18,000 yrs) Hart and others. 1989 EFZ: Kearsarge Peak, Mt. Williamson, Manzanar, Mt. Langley, Lone Pine

#### 244

HUNTER MOUNTAIN FAULT Holocene; Late Quaternary Bryant, W.A., 2009 (aerial photographic interpretation) Burchfiel and others, 1987 Zellmer, J.T., 1980

#### 244A

**KEANE WONDER FAULT** Quaternary Reheis and Noller, 1991

#### 245

TOWNE PASS FAULT Holocene: Quaternary Bryant, W.A., 1989c Hart and others, 1989 Reheis, M.C., 1991 EFZ: Panamint Butte, Nova Canyon

#### 246

ASH HILL FAULT Holocene; Late Quaternary Bryant. W.A., 1989c Hart and others, 1989 EFZ: Panamint Springs, Revenue Canyon, Maturango Peak NE and SE

# 247

PANAMINT VALLEY FAULT Holocene; Late Quaternary; Quaternary Bryant, W.A, 1989c Clark and others, 1984 (8,000-20,000 yrs) Hsu and Wagner, 1990 Smith, R.S.U., 1979 Hart and others, 1989 Zhang and others, 1990 EFZ: The Dunes, Panamint Butt, Nova Canyon, Emigrant Pass, Maturango Peak NE, Jail Canyon, Ballarat, Manly Fall, Copper Queen Canyon, Sourdough Spring, Wingate Pass

#### 248

SOUTHERN DEATH VALLEY FAULT ZONE (SOUTHERN SECTION DEATH VALLEY FAULT SYSTEM) Holocene; Late Quaternary Brady, R.H., III, 1986 Butler, P.R., 1984 Hart and others, 1989 Machette and others, 2001b Wills, C.J., 1989a Wright and Troxel, 1984 EFZ: Shore Line Butte, Confidence Hills West, Confidence Hills East, East of Owl Lake, Old Ibex Pass 248A NOPAH FAULT (AND YOUNG FAULTS IN THE RESTING SPRING RANGE) Late Quaternary and/or Holocene McKittrick, M.A, 1988

### 248B

PAHRUMP FAULT Late Quaternary Donovan, D.E., 1991 Hoffard, J.L., 1991

#### 249

SIERRA NEVADA FAULT ZONE (HAIWEE RESERVOIR AREA) Holocene; Late Quaternary Slemmons and others, 2008 Wills, C.J., 1989b

# 250

AIRPORT LAKE FAULT ZONE Holocene; Late Pleistocene; Historic (1995 earthquake cracks) Duffield and Bacon, 1981 Roquemore, G.A., 1981 Wills, C.J., 1988a, 1989c Hart and others, 1989 Bryant, W.A., 2009 (aerial photographic interpretation) Treiman, J.A, 1995 EFZ: Cactus Peak, Volcano Peak, Pearsonville, White Hills

# 251

FAULT WEST OF COSO JUNCTION IN SIERRA NEVADA Pre-Tertiary Duffield, W.A., 1975 Duffield and Bacon, 1981 Hsu and Wagner, 1990

# 252

KERN CANYON FAULT Holocene (formerly pre Quaternary) Kelson and others, 2009 Kozaci and others, 2009

# 253

GOLD HILL THRUST FAULT Pre-Quaternary Sims, J.D., 1988, 1990

254

SOUTHWEST FRACTURE ZONE (SAN ANDREAS FAULT ZONE) Historic (1966, 2004 earthquake rupture) Manson, M.W., 1985b Rymer and others, 2006 Sims, J.D, 1988, 1990 Sims and others, 1988 EFZ: Parkfield, Cholame Hills 255 SAN SIMEON FAULT

Holocene Buchanan-Banks and others, 1978 Hall and others, 1979a Hanson and others, 2004 Hart and others, 1986 Manson, M.W., 1985c McCulloch, D.S., 1989b EFZ: San Simeon, Piedras Blancas, Burro Mountain

#### 256

ARROYO LAGUNA FAULT Late Quaternary Buchanan-Banks and others, 1978 Hall and others, 1979 Manson, M.W., 1985c

#### 257

#### STRUCTURAL DISCONTINUITY (OFFSHORE) Age?

McCulloch, D.S., 1989b (Discontinuity separating differing Neogene structural domains. May indicate discontinuities between basement rocks)

#### 258

ARROYO DELOSO FAULT Late Quaternary Buchanan-Banks and others, 1978 Hall and others, 1979 Pacific Gas and Electric Company, 1988

#### 259

OCEANIC FAULT Late Quaternary Buchanan-Banks and others, 1978 Hall and others, 1979

#### 260

WHITE CANYON FAULT Holocene Sims. J.D., 1988 Sims and others, 1991

#### 261

**RED HILLS FAULT** Holocene Sims and others, 1991

#### 262

**GILLIS CANYON FAULT** Holocene Sims and others, 1991

#### 263

POND FAULT Historic, with creep caused by groundwater withdrawal Holzer, T.L., 1980 Smith, T.C., 1983c EFZ: Pond

#### 264

KERN FRONT FAULT NEW HOPE FAULT PREMIER FAULT Historic, actively creeping fault triggered by fluid withdrawal; Quaternary Bartow, J.A., 1984 Castle and others, 1983 Hart and others, 1984 Smith, T.C., 1983a EFZ: Oildale, North of Oildale

#### 265

KERN GORGE FAULT Late Quaternary Bartow, J.A., 1984 Hart and others, 1984

#### 266

SIERRA NEVADA FAULT (INYOKERN AREA) Holocene; Late Quaternary Hsu and Wagner, 1990

EFZ: Invokern 267 LITTLE LAKE FAULT Holocene; Late Quaternary; Historic (1982 earthquake cracks) Hsu and Wagner, 1990 Roquemore, G.R., 1981 Roquemore and Zellmer, 1983 Wills, C.J., 1988a Hart and others. 1989 EFZ: Little Lake, Volcano Peak, Pearsonville, Inyokern, Ridgecrest North, Ridgecrest South 268 TANK CANYON FAULT Holocene Clark and others, 1984 (5,000-10,000 yrs) Hsu and Wagner, 1990 Smith and others, 1968 269

**BROWN MOUNTAIN FAULT** Holocene Bryant, W.A., 1989c Clark, M.M., 1973 Hart and others, 1989 EFZ: Hidden Spring, Wingate Pass

Roquemore, G.A., 1981

Wills, C.J., 1988a Hart and others, 1989

# 270

GARLOCK FAULT ZONE Holocene; late Quaternary Clark and others, 1984 Hsu and Wagner, 1990 Pampeyan and others, 1988 EFZ: Cantil, Garlock, Saltdale SE, El Paso Peaks, Klinker Mtn., Spangler Hills East, SE 1/4 Searles Lake, NW 1/4 Cuddeback Lake, SW 1/4 and SE 1/4 Wingate Pass, SW 1/4 and SE 1/4 Quail Mountains, SW 1/4 and SE 1/4 Leach Lake, SW 1/4 Avawatz Pass

# 271

CRACKS NEAR GARLOCK FAULT Historic Zellmer and others, 1985 Hart and others, 1989 EFZ: Spangler Hills East

#### 272

GROUND BREAKS IN GARLOCK FAULT ZONE (FREMONT VALLEY) Holocene; Historic (owing to ground water withdrawal) Pampeyan and others, 1988 Hart and others, 1989

#### 273

EL PASO FAULT Late Quaternary Clark, M.M., 1973 Dibblee, T.W., Jr., 1952 Hsu and Wagner, 1990 Hart and others, 1989 Nitchman, S.P., 1989

#### 274

SURFACE BREAK ON GARLOCK FAULT ZONE Historic (1952 earthquake) Clark, M.M., 1973

275 WHEELER RIDGE FAULT Holocene; late Quaternary Hart and others, 1984 Keller and others, 1989 Smith, T.C., 1984c EFZ: Conner SW, Eagle Rest Peak

#### 275A

WHITE WOLF FAULT Historic (1952) Buwalda and St. Amand, 1955 EFZ: SE1/4 and SW1/4 Breckenridge Mtn., Bear Mtn., Arvin, Mettler, Coal Oil Canyon

#### 275B

GROUND BREAKS (UNNAMED) OF 1952 ARVIN-TEHACHAPI EARTHQUAKE Historic (1952); Holocene; late Quaternary Hart and others, 1984 Smith, T.C., 1984d EFZ: Oil Center, Rio Bravo Ranch, Edison

#### 276

BUENA VISTA FAULT Historic (creep owing to oil withdrawal) Hart and others, 1984 Wilt, J.W., 1958 EFZ: Taft

#### 277

CENTRAL OWENS LAKE FAULT (SOUTHERN OWENS VALLEY FAULT ZONE) Historic; Holocene Slemmons and others, 2008

#### 278

SAN ANDREAS FAULT ZONE (PRIEST VALLEY TO CUYAMA) Historic (1857, 1901, 1906, 1922, 1934, 1966, 2004 earthquake ruptures) Brown and others, 1967 Brown, R.D., Jr., 1970 Byerly and Wilson, 1935 Dibblee, T.W., Jr., 1971a, 1972a, 1972b, 1972c, 1974b Lawson and others, 1908 Manson, M.W., 1985b Richter, C.F., 1958 Rymer and others, 2006 Sims, J.D., 1990 Sims and Hamilton, 1991 Townley and Allen, 1939 Vedder, J.G., 1970 Vedder and Wallace, 1970 EFZ: Priest Valley, Slack Canyon, Smith Mountain, Stockdale Mtn., Parkfield, Cholame Hills, Cholame Valley, Cholame, Orchard Peak, Holland Canyon, Packwood Creek, La Panza NE, Las Yeguas Ranch, Simmler, McKittrick Summit, Painted Rock, Panorama Hills, Wells Ranch, Elkhorn Hills, Cuyama

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SAN JUAN FAULT Quaternary Buchanan-Banks and others, 1978 Dibblee, T.W., Jr., 1972a, 1974b Pacific Gas and Electric Company, 1988 Sims and Hamilton, 1991 Vedder and others, 1986c, 1986d 280 LA PANZA FAULT Quaternary Buchanan-Banks and others, 1978 Dibblee, T.W., Jr., 1972e Pacific Gas and Electric Company, 1988 Vedder and others, 1986a, 1986c, 1986d, 1988, 1989b 281 CAMBRIA FAULT Late Quaternary Hall and others, 1979 Pacific Gas and Electric Company, 1988 282 EDNA FAULT ZONE Quaternary Buchanan-Banks and others, 1978 Hall, C.A., 1973 Hall and others, 1979 Pacific Gas and Electric Company, 1988 283 SAN LUIS BAY FAULT Late Quaternary Hall, C.A., 1982 Lettis and others, 2004 Pacific Gas and Electric Company, 1988 (p. 3-16) 284 SAN MIGUELITO FAULT Pre-Quaternary Buchanan-Banks and others, 1978 Hall and others, 1979 Pacific Gas and Electric Company, 1988 (p. 3-16) 285 LOS OSOS FAULT ZONE Holocene; late Quaternary Hall, C.A., 1973 Hall and Corbató, 1967 Hall and others, 1979

Pacific Gas and Electric Company, 1988 Treiman, J.A., 1989a Hanson and others, 2004 Hart and others, 1989 Lettis and Hall, 1994 Nitchman, S.P., 1988 EFZ: San Luis Obispo

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WILMER AVENUE FAULT Late Quaternary; Holocene? Pacific Gas and Electric Company, 1988 (p. 3-16) Lettis and others, 2004 Nitchman, S.P., 1988

#### 287

HOSGRI FAULT ZONE (OFFSHORE) Quaternary; Holocene Hanson and others, 2004 Hoskins and Griffiths, 1971 McCulloch, D.S., 1989b

#### 288

OCEANO FAULT Late Quaternary Buchanan-Banks and others, 1978 Lettis and others, 2004 Pacific Gas and Electric Company, 1988 (p. 3-16) 289 WEST HUASNA FAULT Late Quaternary Buchanan-Banks and others, 1978 Dibblee, T.W., Jr., 1994c Hall, C.A., 1973 Hall and Corbató, 1967 Hall and others, 1979 Pacific Gas and Electric Company, 1988

#### 290

EAST HUASNA FAULT Quaternary Dibblee, T.W., Jr., 1994b Hall and Corbató, 1967 Vedder and others, 1986a, 1988, 1989a, 1991 Vedder, J.G., 1989 –written communication

#### 291

SOUTH CUYAMA FAULT Quaternary Dibblee, T.W., Jr., 1971c Buchanan-Banks and others, 1978 Pacific Gas and Electric Company, 1988 Vedder and Repenning, 1975 Vedder and others, 1986c, 1988, 1989b, 1994

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SUR -NACIMIENTO FAULT ZONE OF VEDDER, HOWELL, AND McLEAN Pre-Quaternary Vedder and others, 1986a, 1988

#### 293

SANTA MARIA FAULT Quaternary Buchanan-Banks and others, 1978 Pacific Gas and Electric Company, 1988 Sylvester and Darrow, 1979 (p. 396)

#### 294

BRADLEY CANYON FAULT Quaternary Buchanan-Banks and others, 1978 Hart and others, 1986 Pacific Gas and Electric Company, 1988 Sylvester and Darrow, 1979

#### 295

CASMALIA FAULT Late Quaternary Clark, D.G., 1990 Dibblee, T.W., Jr., 1989a, 1989b, 1994a Gray, L.D., 1980 Hanson and others, 2004 Pacific Gas and Electric Company, 1988 Sylvester and Darrow, 1979

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LIONS HEAD FAULT Late Quaternary Dibblee, T.W., Jr., 1989a Hanson and others, 2004 Hart and others, 1986 Pacific Gas and Electric Company, 1988 Sylvester and Darrow, 1979 Clark, D.G., 1990 ORCUTT OIL FIELD FAULTS (CASMALIA FAULT ZONE) Quaternary; Late Quaternary Buchanan-Banks and others, 1978 Dibblee, T.W., Jr., 1989a 297 SANTA LUCIA BANK FAULT (OFFSHORE) Quaternary McCulloch, D.S., 1989b 298 PALEO-SUBDUCTION ZONE (OFFSHORE) Age? McCulloch, D.S., 1989b 299 SANTA YNEZ RIVER FAULT Late Quaternary? Buchanan-Banks and others, 1978 Dibblee, T.W., Jr., 1993c Pacific Gas and Electric Company, 1988 McCulloch, D.S., 1989b Sylvester and Darrow, 1979 300 HONDA FAULT Late Quaternary? Pacific Gas and Electric Company, 1988 Sylvester and Darrow, 1979 301 PACIFICO FAULT Late Quaternary? Dibblee, T.W., Jr., 1988a, 1988b, 1988d Hart and others, 1977 Pacific Gas and Electric Company, 1988 Sylvester and Darrow, 1979 Ziony and others, 1974 302 LOS ALAMOS FAULT Holocene; Late Quaternary Guptill and others, 1981 Hart and others, 1986 EFZ: Zaca Creek 303 GAREY FAULT Quaternary Buchanan-Banks and others, 1978 Hall, CA, Jr., 1981 Hart and others, 1986 Pacific Gas and Electric Company, 1988 304 FOXEN CANYON FAULT SANTA MARIA RIVER FAULT Late Quaternary Dibblee, T.W., Jr., 1994a, 1994b Buchanan-Banks and others, 1978 Hall, C.A., Jr., 1981 Lettis and others, 2004 Pacific Gas and Electric Company, 1988 Sylvester and Darrow, 1979 305 **BASELINE FAULT** Late Quaternary Guptill and others, 1981 Hart and others, 1977 Sylvester and Darrow, 1979 Yerkes and Lee, 1987 (Plate 4.1)

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LITTLE PINE FAULT Late Quaternary (northwestern part); Quaternary and Pre-Quaternary (southeastern part) Buchanan-Banks and others, 1978 Dibblee, T.W., Jr., 1987a, 1993a, 1993b Hall, C.A., Jr., 1981 Pacific Gas and Electric Company, 1988 Sylvester and Darrow, 1979 Vedder and Stanley, 2001

#### 307

BIG PINE FAULT (WESTERN SECTION OF BIG PINE FAULT ZONE) Quaternary Vedder and others, 1973, 1995 Vedder and Stanley, 2001

### 308

OZENA FAULT Quaternary Dibblee, T.W., Jr., 1971c Minor, S.A., 2004 Vedder and Repenning, 1975 Yerkes and Lee, 1987 (Plate 4.1)

#### 309

PLEITO FAULT Holocene; Quaternary Bortugno, E.J., 1986 Clark and others, 1984 (280-8,500 and 18,000-30,000 yrs.) Dibblee, T.W., Jr., 1973a Hall, N.T., 1984 Hart and others, 1984 McGill, 1951 Smith, T.C., 1984c EFZ: Pleito Hills, Grapevine

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GARLOCK FAULT, SOUTH BRANCH Holocene Clark, M.M., 1973 Clark and others, 1984 Crowell, J.C., 1952 Wiese, J.H., 1950 EFZ: Lebec, Winters Ridge, Pastoria Creek, Liebre Twins, Tylerhorse Canyon, Tehachapi South, Monolith, Mojave, NW 1/4 and NE 1/4 Mojave, Cinco

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SAN ANDREAS FAULT ZONE (CUYAMA TO PALMDALE) Historic (1857, 1916 earthquake ruptures) Wood, H.O., 1955 Barrows and others, 1985 Bonilla, M.G., 1970 Carman, M.F., 1964 Crowell, J.C., 1947, 1952, 1964 Dibblee, T.W., Jr., 1971b Agnew and Sieh, 1978 Sieh, K.E., 1978b Sierveld, F.G., 1957 Branner, J.C., 1917 Ross. D.C., 1969 Van Amringe, J.H., 1957 Vedder and Wallace, 1970 EFZ: Cuyama, Ballinger Canyon, Maricopa, Santiago Creek, Sawmill Mountain, Cuddy Valley, Frazier Mtn., Lebec, La Liebre Ranch, Liebre Mtn., Burnt Peak, Lake Hughes, Del Sur, Sleepy Valley, Ritter Ridge, Palmdale

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UNNAMED FAULT NEAR FAIRMONT RESERVOIR ADJACENT TO SAN ANDREAS FAULT Holocene Dibblee, T.W., Jr., 1961 EFZ: Lake Hughes

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UNNAMED FAULT AT EAST END OF BOUQUET CANYON Holocene Barrows and others, 1985 Kahle and others, 1977 EFZ: Sleepy Valley

#### 314

CLEARWATER FAULT Late Quaternary Smith, T.C., 1977a Dibblee, T.W., Jr., 1997a, 1997b, 1997c, 2002f Ziony and Yerkes, 1985 (p. 55 and Fig.11) Ziony and Jones, 1989

### 315

PELONA FAULT Quaternary Dibblee, T.W., Jr., 1997b Smith, T.C., 1978

#### 316

SAN GABRIEL FAULT (WESTERN PART) Late Quaternary; Holocene near Castaic Cotton, W.R., 1986 Weber, F.H., Jr., 1982, 1986 Kahle, J.E., 1986 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 55) EFZ: Newhall

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ALAMO MOUNTAIN THRUST DRY CREEK THRUST FRAZIER MOUNTAIN THRUST Quaternary Yerkes and Lee, 1987 (Plate 4.1) Crowell, J.C., 1954 Jennings and Strand, 1969 Weber, F.H., Jr., 1982 Weber and others, 1976

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BIG PINE FAULT (CENTRAL SECTION BIG PINE FAULT ZONE) Late Quaternary Minor, S.A., 1999, 2004 Hart and others, 1977 Vedder and others, 1973 Yerkes and Lee, 1987 (Plate 4.1)

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PINE MOUNTAIN FAULT Late Quaternary Dibblee, T.W., Jr., 1985, 1987g, 1996a, 1996b Minor, S.A., 2004 Vedder and others, 1973 Yerkes and Lee, 1987 (Plate 4.1) 320 SANTA YNEZ FAULT Late Quaternary; Holocene near Lake Cachuma Clark and others, 1984 (10,000-70,000 yrs) Dibblee, T.W., Jr., 1985, 1986a, 1986b, 1986c, 1987a, 1987c, 1987d, 1987g, 1988b, 1988c, 1988d, 1996a, 1996b Darrow and Sylvester, 1984 Yerkes and Lee, 1987 (Plate 4.1) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 53) 321 SANTA YNEZ FAULT, SOUTH BRANCH Late Quaternary Clark and others, 1984 (5,000-15,000 yrs) Dibblee, T.W., Jr., 1988b, 1988d, Hart and others, 1977 McCulloch, D.S., 1989b Yerkes and Lee, 1987 (Plate 4.1) 322 MORE RANCH FAULT (MISSION RIDGE FAULT SYSTEM) Late Quaternary Clark and others, 1984 (40,000-60,000 yrs) Gurrola, L.D., 2006 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 53) 323 LAVIGIA FAULT Late Quaternary Gurrola, L.D., 2006 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 53) 324 SAN JOSE FAULT (SANTA BARBARA COUNTY) Late Quaternary Dibblee, T.W., Jr., 1987h Gurrola, L.D., 2006 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 53) 325 MESA -RINCON CREEK FAULT ZONE Late Quaternary Dibblee, T.W., Jr., 1986c, 1987d Gurrola, L.D., 2006 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 53) 326 CARPINTERIA FAULT Late Quaternary Dibblee, T.W., Jr., 1986c, 1987d Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 51) 327 MISSION RIDGE FAULT ARROYO PARIDA FAULT (MISSION RIDGE FAULT SYSTEM) Late Quaternary Clark, M.N., 1982 Gurrola, L.D., 2006 Clark and others, 1984 (28,500-39,500 yrs) Dibblee, T.W., Jr., 1986c, 1987d Rockwell and others, 1984 Weber and others, 1976 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 53)

SHEPARD MESA FAULT Late Quaternary Dibblee, T.W., Jr., 1987d Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 53) 329 SANTA ANA FAULT (MISSION RIDGE FAULT SYSTEM) Late Quaternary Clark, M.N., 1982 Dibblee, T.W., Jr., 1987f Hart and others, 1986 (p. 26 and Plate 1) Kahle, J.E., 1985 Rockwell and others, 1984 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 54) 330 FAULTS NEAR OAKVIEW AND MEINERS OAKS Holocene; Late Quaternary Clark, M.N., 1982 Dibblee, T.W., Jr., 1987e, 1987f Hart and others, 1986 (p. 25 and Plate 1) Kahle, J.E., 1985 Rockwell and others, 1984 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 54) EFZ: Matilija 331 **RED MOUNTAIN FAULT** Late Quaternary; Holocene Clark and others, 1984 (45,000-60,000 yrs) Dibblee, T.W., Jr., 1988e Smith, T.C., 1977b Tan and others, 2003a Kamerling, M.J., 2000 Weber and others, 1976 Yeats and others, 1987 (p. 161) Yerkes and Lee, 1987 (p. 77 and Plate 4.1) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 54) EFZ: Pitas Point 332 JAVON CANYON FAULT Holocene Sarna-Wojcicki and others, 1987 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 54) Treiman, J.A., 1989c Hart and others, 1991 EFZ: Pitas Point 333 SANTA ROSA ISLAND FAULT Late Quaternary; Quaternary Clark and others, 1984 (45,000-700,000 yrs) McCulloch, D.S., 1989b Vedder and others, 1987 Ziony and Yerkes, 1985 (p. 56) 334 SANTA CRUZ ISLAND FAULT Late Quaternary; Holocene; Quaternary Patterson, R.H., 1979 Vedder and others, 1986b (offshore) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 56) Pinter and Sorlien, 1991 (<11,800 yrs)

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334A SANTA CRUZ-SANTA CATALINA RIDGE FAULT ZONE (OFFSHORE) Quaternary; Holocene Ziony and Jones, 1989 (p. 3) 335 OAK RIDGE FAULT (ONSHORE AND OFFSHORE) Late Quaternary; Holocene south of Fillmore Vedder and others, 1986b (offshore) Yeats, R.S., 1987 (p. 151-153) Yerkes and Lee, 1987 (p. 78) Tan and others, 2004a, 2005 Treiman, J.A., 1990a (onshore) Fisher and others. 2005 Hart and others, 1991 (onshore) Yerkes and Campbell, 2005 Ziony and Jones, 1989 Zionv and Yerkes, 1985 (p. 55) EFZ: Fillmore, Moorpark 336 VENTURA FAULT (PITAS POINT -VENTURA FAULT) Holocene; Quaternary Hart and others. 1986 Smith, T.C., 1976 Vedder and others, 1986b (offshore) Yerkes and Lee, 1987 (p. 77-78) Yerkes and others, 1987 (p. 169, 174, 175) Ziony and Jones, 1989 EFZ: Saticoy, Ventura 337 LION CANYON FAULT Late Quaternary Dibblee, T.W., Jr., 1987e, 1987f Hart and others, 1986 Tan and Irvine, 2005a Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 54) 338 UNNAMED FAULTS AT ALISO CANYON AND WEST OF SANTA PAULA Late Quaternary Yerkes and Lee, 1987 (Plate 4.1) 339 FAULTS OF ORCUTT AND TIMBER CANYONS Holocene; Late Quaternary Clark and others, 1984 (4,500-5,000 and 25,000-30,000 vrs) Hart and others, 1986 (p. 20 and Plate 1) Rockwell, T.K., 1988 Tan and Irvine, 2005b Ziony and Jones, 1989 EFZ: Santa Paula Peak 340 SAN CAYETANO FAULT Holocene; Late Quaternary Clark and others, 1984 (8,000-12,000 yrs) Dibblee, T.W., Jr., 1987f Hart and others, 1986 Kahle, J.E., 1985 Rockwell, T.K., 1983, 1988 Yerkes and Campbell, 2005 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 54)

EFZ: Fillmore, Santa Paula Peak, Ojai 341 SANTA FELICIA FAULT Late Quaternary? Yeats and others, 1986 (p.1 and Plate II) Ziony and Jones, 1989 342 HOLSER FAULT Late Quaternary? Winterer and Durham, 1962 Yerkes and Campbell, 2005 Weber, F.H., 1982 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 55) 343 DEL VALLE FAULT Late Quaternary? Yeats and others, 1986 (Plate II) Yerkes and Campbell, 2005 Ziony and Jones, 1989 344 SANTA SUSANA FAULT Late Quaternary; Historic (1971 rupture accompanying San Fernando earthquake) Barrows and others, 1975a Lung and Weick, 1987 (p. 69) Yeats, R.S., 1987 (p. 137, 158) Yerkes and Campbell, 2005 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 55) 345 **BIG MOUNTAIN FAULT (REMOVED)** Quaternary (Plio-Pleistocene) Yerkes and Campbell, 2005 - fold axis, not fault 346 SIMI-SANTA ROSA FAULT ZONE Holocene Treiman, J.A., 1998 Yeats, R.S., 1983 Yerkes and Campbell, 2005 Yerkes and Lee, 1987 (Plate 4.1) EFZ: Newbury Park, Moorpark, Simi Valley West, Simi Valley East 347 UNNAMED FAULTS NEAR MOORPARK Late Quaternary Yerkes and Lee, 1987 (Plate 4.1) 348 SPRINGVILLE FAULT AND VICINITY Holocene; Late Quaternary Treiman, J.A., 1997 Yerkes and Lee. 1987 (Plate 4.1) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 55) EFZ: Camarillo, Santa Paula 349 CAMARILLO FAULT Holocene Treiman, J.A., 1997 EFZ: Camarillo 350 BAILEY FAULT Late Quaternary Hart and others. 1978 Tan and others, 2004b Yerkes and Lee, 1987 (Plate 4.1)

351 BONEY MOUNTAIN FAULT SYCAMORE CANYON FAULT Quaternary Hart and others, 1978 Tan and Clahan, 2003 Yerkes and Campbell, 2005 352 CHATSWORTH FAULT Late Quaternary Hart and others, 1978 Yerkes and Lee, 1987 (Plate 4.1) Yerkes and Campbell, 2005 Ziony and others, 1974 (Sheet 2) 353 NORTHRIDGE HILLS FAULT Late Quaternary or Holocene Baldwin and others, 2000 Weber, F.H., Jr., 1980 (p. B-53) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 56) Yerkes and Campbell, 2005 354 MISSION HILLS FAULT ZONE Late Quaternary or Holocene Saul, R.B., 1975, 1979 Yerkes and Campbell, 2005 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 56) 355 UNNAMED FAULT (UPPER VAN NORMAN LAKE AREA) Holocene Allen and others, 1975 Barrows and others, 1975a, 1975b U.S. Geological Survey, 1971 Spellman and others, 1984 356 SAN FERNANDO FAULT Historic (1971 earthquake ruptures) Allen and others, 1975 Barrows and others, 1975a, 1975b U.S. Geological Survey, 1971 Weber, F.H., Jr., 1982 EFZ: San Fernando, Sunland, Oat Mountain SIERRA MADRE FAULT ZONE Holocene; Late Quaternary (Holocene -western part between Big Tujunga and Dunsmore canyons; late Quaternary -eastern part) Bortugno, E.J., 1986 Clark and others, 1984 (1,000-11,000 and 200,000-500,000 yrs) Crook and others, 1987 (p. 41-53) Dibblee, T.W., Jr., 2002d Morton and Miller, 2003 Smith, D.P., 1978 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 57) EFZ: Sunland, Burbank 358 SAN ANDREAS FAULT ZONE (PALMDALE TO CAJON CANYON) Historic (1857 earthquake rupture) Barrows and others, 1985 Morton and Miller, 2003 Morton and others, 1991 Perez and others, 2007

EFZ: Palmdale, Littlerock, Juniper Hills, Valyermo, Mescal Creek, Mount San Antonio, Telegraph Peak, Caion 359 FAULTS IN LAKE ALMANOR REGION, INCLUDING KEDDIE RIDGE AND WALKER SPRING FAULTS Late Quaternary; Quaternary Grose and others, 1991 360 WATERS PEAK FAULT (FOOTHILLS FAULT SYSEM) Quaternarv Page and Sawyer, 2004 361 LLANO FAULT Holocene? Bortugno, E.J., 1986 Guptill and others, 1979 Ponti and Burke, 1980 Ziony and Jones, 1989 362 MIRAGE VALLEY FAULT Late Quaternary Bortugno, E.J., 1986 Bryant, W.A., 1987d Hart and others, 1988 363 LEUHMAN FAULT Quaternary; Late Quaternary at southeast end Bortugno, E.J., 1986 Bryant, W.A., 1987d Hart and others, 1988 364 **KRAMER HILLS FAULT** Late Quaternary Bortugno, E.J., 1986 Bryant, W.A., 1987d Hart and others, 1988 365 LOCKHART FAULT SOUTH LOCKHART FAULT Holocene Bortugno, E.J., 1986 Bryant, W.A., 1987c Hsu and Wagner, 1990 Manson, M.W., 1986c EFZ: Kramer Hills, The Buttes, Lockhart 366 UNNAMED FAULT ON WEST SIDE OF HARPER LAKE Holocene Bryant, W.A., 1987c EFZ: Lockhart 367 NORTH LOCKHART FAULT Late Quaternary Bryant, W.A., 1987c 368 **GRAVEL HILLS FAULT** Holocene Bryant, W.A., 1987c Dibblee, T.W., Jr., 1968b Hsu and Wagner, 1990 EFZ: Fremont Peak

369 HARPER FAULT ZONE Holocene Bortugno, E.J., 1986 Bryant, W.A., 1987c Dibblee, T.W., Jr., 1968b Hsu and Wagner, 1990 EFZ: Bird Spring, Lockhart, Water Valley, Mud Hills 370 **BLACKWATER FAULT** Holocene; Quaternary Bortugno, E.J., 1986 Bryant, W.A., 1987c Dibblee, T.W., Jr., 1968b Hsu and Wagner, 1990 EFZ: Opal Mountain, Superior Lake 371 COYOTE LAKE FAULT Quaternary? Byers, F.M., Jr., 1960 Wesnousky, S.G., 1986 371A UNNAMED FAULT Late Quaternary; Undivided Quaternary Howard, K.A., 1993 372 MANIX FAULT Holocene; Historic (1947 earthquake rupture) Bortugno, E.J., 1986 Dibblee and Bassett, 1966a, 1966b Hileman and others, 1973 Keaton and Keaton, 1977 Richter, C.F., 1958 (p. 516-518) EFZ: NE 1/4 Newberry, NW 1/4 Cady Mountains 372A UNNAMED FAULT Holocene or Late Quaternary Slemmons, D.B., 1992 373 HARPER LAKE FAULT Late Quaternary; Holocene? Bryant, W.A., 1987c Dibblee, T.W., Jr., 1968b 374 MT. GENERAL FAULT Holocene in part Bortugno, E.J., 1986 Bryant, W.A., 1987c EFZ: Barstow 375 LENWOOD FAULT CREEP Historic (creep?, not verified by Manson) Church and others, 1974 Manson, M.W., 1986b Morton and others, 1980 376 CALICO FAULT Holocene Bortugno, E.J., 1986 Bortugno, E.J., 1987 Hart, E.W., 1994 Morton and others, 1980

EFZ: Yermo, Harvard Hill, Newberry Springs, Troy Lake, Silver Bell Mine 376A UNNAMED FAULTS NEAR TROY LAKE Historic (1992 earthquake) Hart, E.W., 1994 EFZ: Harvard Hill, Newberry Springs 377 CHEMEHUEVI GRABEN Late Quaternary Purcell and Miller. 1980 378 **PISGAH FAULT** Holocene Bortugno, E.J., 1986 Hart, E.W., 1987 Hart and others, 1988 Morton and others, 1980 EFZ: Hector, Sunshine Peak, Lavic Lake, Lavic SE 378A SOUTH BRISTOL MTNS. FAULT Quaternary Howard, K.A., 1993 378B BROADWELL LAKE FAULT Early Quaternary Howard, K.A., 1993 379 RODMAN FAULT Quaternary Bortugno, E.J., 1986 Hart and others, 1988 380 CAMP ROCK FAULT Holocene; Historic (earthquake rupture 1992) Bryant, W.A., 2004 Hart and others, 1988, 1993 Manson, M.W., 1986a Morton and others, 1980 EFZ: Minneola, Ord Mountain, Camp Rock Mine, Fry Mountains, Iron Ridge 381 LENWOOD FAULT Holocene Bortugno, E.J., 1986 Bryant, W.A., 1986b Hart and others, 1988 Manson, M.W., 1986b Morton and others, 1980 Ziony and Yerkes, 1985 EFZ: Rattlesnake Canyon, Old Woman Springs, Fry Mountains, Grand View Mine, Ord Mountain, West Ord Mtn., Daggett, Barstow SE 382 HELENDALE FAULT Holocene; Late Quaternary Bortugno, E.J., 1986 Bryant, W.A., 1986b Dibblee, T.W., Jr., 1964a Manson, M.W., 1986c Morton and others, 1980 Zionv and Jones. 1989 Ziony and Yerkes, 1985 (p. 52) EFZ: Turtle Valley, Apple Valley North, Fairview Valley, Fifteenmile Valley, Lucerne Valley, Cougar Buttes, Big Bear City

383 SQUAW PEAK FAULT Pre-Quaternary Matti and others, 1985 Meisling and Weldon, 1989 (age p. 117) 384 SAN GABRIEL FAULT (EASTERN PART) Quaternary Bortugno, E.J., 1986 Dibblee, T.W., Jr., 1998, 2002a, 2002b, 2002c, 2002d, 2002e Morton and others, 1991 Morton and Matti, 2001a Morton and Miller, 2003 Weber, F.H., Jr., 1982 385 CLAMSHELL-SAWPIT CANYON FAULT ZONE Late Quaternary Bortugno, E.J., 1986 Crook and others, 1987 (p. 49 and Plate 2.3) Dibblee, T.W., Jr., 1998, 2002d Morton, D.M., 1973 (p. 17-18) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 57) 386 EAGLE ROCK FAULT SAN RAFAEL FAULT Late Quaternary? Lamar, D.L., 1970 (p. 39) Weber, F.H., Jr., 1980 (p. A-3, A-4) Yerkes and Campbell, 2005 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 56) 387 VERDUGO FAULT Holocene; Late Quaternary Weber and others, 1980 (p. A-2, A-3, A-4) Yerkes and Campbell, 2005 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 56) 388 POSSIBLE FAULT IN NORTH HOLLYWOOD Holocene? Weber, F.H., Jr., 1980 (p. B-99) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 56) 389 MALIBU COAST FAULT Late Quaternary; Holocene Campbell and others, 1996 Clark and others, 1984 (185,000-200,000 yrs) Fall and others, 1987 (Holocene faulting at Malibu Point) Leighton and Associates, 1989 Treiman, J.A., 1994a, 2007 Yerkes and Campbell, 2005 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 56) 390 MALIBU COAST FAULT (OFFSHORE) Late Quaternary Fisher and others, 2005 Treiman, J.A., 1994a Vedder and others, 1986b 391 SANTA MONICA FAULT Holocene: Late Quaternary Clark and others, 1984 (122,000-126,000 yrs)

Dolan and others, 2000 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 57) 392 HOLLYWOOD FAULT Holocene Clark and others, 1984 (4,000-6,000 yrs) Dolan and others, 1997 Weber and others, 1980 (p. A-3 and Plate 1) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 57) 393 FAULT WEST OF MONTEREY PARK Late Quaternary? Ziony and Jones, 1989 394 RAYMOND FAULT Holocene Crook and others, 1987 (p. 58) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 57) Treiman, J.A., 1991b Hart and others, 1991 EFZ: Los Angeles, El Monte. Mt. Wilson 395 DUARTE FAULT Late Quaternary; possibly Holocene along northern strand near Azusa Bortugno, E.J., 1986 Crook and others, 1987 (p. 50, 52) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 57) 396 SAN JOSE FAULT Late Quaternary Bortuano, E.J., 1986 Morton and Miller, 2003 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 58) 397 INDIAN HILL FAULT Late Quaternary Bortugno, E.J., 1986 Morton and Miller, 2003 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 57) 398 RED HILL-ETIWANDA AVENUE FAULT Late Quaternary except Holocene at eastern end Hart and others, 1978 Bortugno, E.J., 1986 Burnett and Hart, 1994 Morton and Miller, 2003 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 58) EFZ: Cucamonga Peak 399 CUCAMONGA FAULT Holocene Bortugno, E.J., 1986 Burnett and Hart, 1994 Morton and Matti, 1987 (p. 179) Morton and Miller, 2003 Ziony and Jones, 1989 EFZ: Devore, Cucamonga Peak, Mt. Baldy

400 LYTLE CREEK FAULT Late Quaternary; Quaternary Bortugno, E.J., 1986 Burnett and Hart, 1994 Matti and others, 1985 Morton and Matti, 1987, 2001b Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 48) EFZ: Devore

#### 401

SAN JACINTO FAULT (SAN JACINTO FAULT ZONE) Holocene; Late Quaternary; Historic (1899?) Bonilla, M.G., 1970 Bortugno, E.J., 1986 Burnett and Hart, 1994 Daneš, J.V., 1907 Matti and others, 1985 Morton and others, 1987 Morton and Miller, 2003 Morton and Matti, 2001b Sharp, R.V., 1972 Toppozada and others, 1981 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 48) EFZ: Devore, San Bernardino North, San Bernardino South, Redlands, Sunnymead, El Casco, Lakeview, San Jacinto. Hemet, NE 1/4 Hemet

#### 402

GLEN HELEN FAULT (SAN JACINTO FAULT ZONE) Holocene Bortugno, E.J., 1986 Burnett and Hart, 1994 Matti and others, 1985 Morton and others, 1987 Morton and Miller, 2003 Sharp, R.V., 1972 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 48)

EFZ: Devore

#### 403

CLEGHORN FAULT (PART OF CLEGHORN FAULT ZONE) Late Quaternary; Holocene? Bryant, W.A., 1987b Meisling, K.E., 1984 (p. 171-177, 268. 271-288) Meisling and Weldon, 1989 (p. 121) Clark and others, 1984 (50,000-100,000 yrs) Morton and Miller, 2003 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 58)

### 404

GRASS VALLEY FAULT (PART OF CLEGHORN FAULT ZONE) Late Quaternary? Bryant, W.A. 1987b Meisling, K.E., 1984 (p. 178-179) Ziony and Jones, 1989

#### 405

ORD MOUNTAINS FAULT (WESTERN SECTION OF NORTH FRONTAL THRUST SYSTEM) Holocene Bryant. W.A., 1986c Hart and others, 1988 Meisling, K.E., 1984 (p. 182.295-298) Ziony and Jones, 1989 EFZ: Apple Valley South 406 BOWEN RANCH FAULT Late Quaternary? Bryant, W.A., 1986c Meisling, K.E., 1984 (p. 196, 197,309) Ziony and Jones, 1989

### 407

NORTH FRONTAL FAULT ZONE (NORTHERN AND EASTERN SECTION OF NORTH FRONTAL THRUST SYSTEM) Late Quaternary; Holocene Bortugno, E.J., 1986 Bryant, W.A., 1986b Meisling, K.E., 1984 Miller, F.K., 1987 (p. 83, 94) Ziony and Yerkes, 1985 (p. 58) EFZ: Rattlesnake Canyon, Bighorn Canyon

### 408

SKY HI RANCH FAULT (PART OF NORTH FRONTAL THRUST SYSTEM) Holocene Bryant, W.A., 1986b, 1986c Meisling, K.E., 1984 (p. 289-294) Meisling and Weldon, 1989 (p. 122) Ziony and Jones, 1989 EFZ: Fifteenmile Valley, Lucerne Valley, Fawnskin

# 409

ARRASTRE CANYON NARROWS FAULT Late Quaternary? Bryant, W.A., 1986c Meisling, K.E., 1984 (p. 197-200,308,309) Ziony and Jones, 1989

#### 410

TUNNEL RIDGE FAULT Late Quaternary? Bryant, W.A., 1986c Meisling, K.E., 1984 (p. 180-182,299) Meisling and Weldon, 1989 (p. 120) Ziony and Jones, 1989

#### 411

WATERMAN CANYON FAULT Late Quaternary Dibblee, T.W., Jr., 1968a, 1974c Meisling and Weldon, 1989 (p. 108, 117) Miller and Matti, 2001

#### 412

SANTA ANA FAULT Quaternary Bortugno, E.J., 1986 Dibblee, T.W., Jr., 1964b, 1974c Matti and others, 1985

#### 413

HELENDALE FAULT (SOUTHEAST EXTENSION) Quaternary Bortugno, E.J., 1986 Bryant, W.A., 1986b Dibblee, T.W., Jr., 1964a, 1964b Hart and others, 1988 414 OLD WOMAN SPRINGS FAULT SILVER REEF FAULT Holocene Bortugno, E.J., 1986 Bryant, W.A., 1986b Manson, M.W., 1986b Morton and others, 1980 EFZ: Old Woman Springs, Rattlesnake Canyon 415 JOHNSON VALLEY FAULT Holocene; Historic (1979, 1992 earthquake ruptures) Bortugno, E.J., 1986 Bryant, W.A., 1986b, 1992b, 1994 Dibblee, T.W., Jr., 1967b Hart and others, 1988, 1993 Hill and others, 1980 Manson, M.W., 1986b Morton and others, 1980 EFZ: Landers, Bighorn Canyon, Melville Lake, Old Woman Springs 416 GALWAY LAKE FAULT Historic (ground rupture, 1975 and 1992 earthquakes) Bryant, W.A., 1994 Hill and Beeby, 1977 Manson, M.W., 1986a Hart and others, 1993 EFZ: Galway Lake 417 WEST CALICO FAULT Holocene Bortugno, E.J., 1986 Bortugno, E.J., 1987 Dibblee, T.W., Jr., 1967d, 1967e, 1967f Morton and others, 1980 EFZ: Silver Bell Mine, Sunshine Peak, Galway Lake, Lavic SE, Hidalgo Mtn. 418 **BULLION FAULT** Holocene; Historic (earthquake rupture 1999) Bortugno, E.J., 1986 Dibblee, T.W., Jr., 1967e, 1967f, 1968a Hart, E.W., 1987 Hart and others, 1988 Howard, K.A., 2002 Treiman, J.A., 2002a EFZ: Lavic SE, Hidalgo Mtn., Deadman Lake NW 419 HIDALGO FAULT Holocene: Quaternary Bortugno, E.J., 1987 Dibblee, T.W., Jr., 1967e, 1968a Hart and others, 1988 EFZ: Deadman Lake SW, Hidalgo Mtn. 420 EMERSON FAULT Holocene; Historic (earthquake rupture 1992) Bryant, W.A., 1994, 2004 Bortugno, E.J., 1986 Hart and others, 1988, 1993 Manson, M.W., 1986a Morton and others, 1980 EFZ: Iron Ridge, Melville Lake, Emerson Lake, Hidalgo Mtn., Goat Mtn. 421 HOMESTEAD VALLEY FAULT Holocene; Historic (1979, 1992 earthquake ruptures) Bortugno, E.J., 1986 Bryant, W.A., 1992b, 1994, 2004

Hart and others, 1988, 1993 Hill and others, 1980 EFZ: Landers, Emerson Lake, Melville Lake, Iron Ridge

# 422

MESQUITE LAKE FAULT Holocene; Historic (earthquake rupture 1999) Bortugno, E.J., 1986 Bryant, W.A., 1986a Hart and others, 1988 Morton and others, 1980 Treiman, J.A., 2002a Treiman and others, 2002 EFZ: Deadman Lake SE, Twentynine Palms, Valley Mtn., Twentynine Palms Mountain

#### 422A

CLEGHORN LAKE FAULT Quaternary Howard, K.A., 2002

#### 423

COPPER MOUNTAIN FAULT Holocene; Late Quaternary Bortugno, E.J., 1986 Bryant, W.A., 1986a Dibblee, T.W., Jr., 1967d, 1968a Hart and others, 1988 Morton and others, 1980 EFZ: Sunfair, Joshua Tree North

#### 424

UNNAMED FAULT AT FLAMINGO HEIGHTS (JOHNSON VALLEY FAULT ZONE) Holocene?; Historic (earthquake rupture 1992) Bryant, W.A., 1986a, 1992b EFZ: Yucca Valley North

#### 424A

EUREKA PEAK FAULT Historic (1992 earthquake rupture); Holocene Treiman, J.A., 1992 Rymer, M.J., 1993 EFZ: Joshua Tree South

# 424B

BURNT MOUNTAIN FAULT Historic (1992 earthquake ruptures); Holocene Treiman, J.A., 1992 Rymer, M.J., 1993 EFZ: Yucca Valley South, Yucca Valley North

#### 425

PINTO MOUNTAIN FAULT Holocene; Late Quaternary Bortugno, E.J., 1986 Bryant, W.A., 1986a Dibblee, T.W., Jr., 1967a, 1967g Howard, K.A., 2002 EFZ: SW 1/4 and SE 1/4 Morongo Valley, Yucca Valley South, Yucca Valley North, Joshua Tree North, Sunfair, Queen Mtn., Twentynine Palms

#### 426

SAN GORGONIO MOUNTAIN FAULT Late Quaternary Bortugno, E.J., 1986 Dibblee, T.W., Jr., 1964b, 1967a Wesnousky, S.G., 1986 MILL CREEK FAULT (NORTH BRANCH SAN ANDREAS FAULT) Late Quaternary Bortugno, E.J., 1986 Dibblee, T.W., Jr., 1964b, 1967a, 1974c Hope, R.A., 1969 Matti and others, 1985, 1992 Miller and Matti, 2001 Morton and Matti, 2001b Smith, R.A., 1959 Treiman, J.A., 1994b Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 48) EFZ: SW 1/4 Morongo Valley, SE 1/4 and SW 1/4 San Gorgonio Mtn., Yucaipa, Keller Peak, Harrison Mountain 427A SAN ANDREAS FAULT (CAJON CANYON TO BURRO FLATS) Holocene Bortugno, E.J., 1986 Burnett and Hart, 1994 Dibblee, T.W., Jr., 1964b, 1974c Hope, R.A., 1969 Miller and Matti, 2001 EFZ: Cabazon, SE 1/4 and SW 1/4 San Gorgonio. Yucaipa, Redlands, Harrison Mountain, San Bernardino North, Devore 428 CRAFTON HILLS FAULT ZONE Holocene; Late Quaternary Bortugno, E.J., 1986 Hart and others, 1978 Matti and others, 2003b Morton, D.M., 1978c Smith, D.P., 1977 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 58) EFZ: Yucaipa 429 **RIALTO-COLTON FAULT** Late Quaternary Morton and Miller, 2003 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 49) 430 INFERRED FAULT NEAR FONTANA Possibly Late Quaternary; numerous closely aligned small earthquakes Morton, D.M., 1976 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 58) 431 CHINO FAULT Holocene; Late Quaternary Treiman, J.A., 2002b Ziony and Jones, 1989 432 CENTRAL AVENUE FAULT Late Quaternary? Greenwood and Morton, 1991 Morton, D.M., 1976 Zionv and Jones. 1989

Ziony and Yerkes, 1985 (p. 49)

427

433 FAULTS IN WEST COYOTE HILLS Late Quaternary; 1968 surface rupture probably related to oil withdrawal Yerkes, R.F., 1972 Tan and others, 1984 (p. 29-30) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 50) EFZ: La Habra 434 POTRERO FAULT **INGLEWOOD FAULT** AVALON COMPTON FAULT (NEWPORT-INGLEWOOD FAULT ZONE) Holocene; Late Quaternary; surface faulting (creep) on Inglewood Fault since 1957 due to oil and gas withdrawal Barrows, A.G., 1974 (p. 18 and Plate 1) Bryant, W.A., 1985e, 1988d Hart and others, 1986 (p. 21-23, Plate 1) Poland and others, 1959 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 51) EFZ: Beverly Hills, Hollywood, Inglewood, Torrance 435 CHARNOCK FAULT OVERLAND AVENUE FAULT Late Quaternary Castle, R.O., 1960 Poland and others, 1959 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 52) 436 **REDONDO CANYON FAULT (OFFSHORE)** Holocene Clarke and others, 1985 (p. 365) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 52) 436A SAN PEDRO BASIN FAULT ZONE (OFFSHORE) Quaternary; Late Quaternary? Vedder and others, 1986b Ziony and Jones, 1989 (late Quaternary) 437 PALOS VERDES FAULT Late Quaternary; Holocene offshore, in part Clark and others, 1984 (10,000 yrs. offshore) Darrow and Fischer, 1983 Vedder and others, 1986b (offshore) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 52) 438 CABRILLO FAULT Late Quaternary onshore; Holocene offshore Bryant and Raub, 1986 Cleveland, G.B., 1976 Vedder and others, 1986b Ziony and Jones, 1989 439 SOUTH BRANCH FAULT (NEWPORT-INGLEWOOD FAULT ZONE) Late Quaternary Bryant. W.A., 1985b

CDWR, 1966

Ziony and Jones, 1989

Ziony and Yerkes, 1985 (p. 51)

Hart and others, 1986 (p. 24 and Plate 1)

440 NORTH BRANCH FAULT (NEWPORT-INGLEWOOD FAULT ZONE) Holocene Bryant. W.A., 1985b, 1988d Guptill and Heath, 1981 Hart and others, 1986 (p. 24 and Plate 1) Woodward-Clyde Consultants, 1987a Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 51) EFZ: Newport Beach, Seal Beach, Los Alamitos 441 CHERRY HILL FAULT RESERVOIR HILL FAULT SEAL BEACH FAULT (NEWPORT-INGLEWOOD FAULT ZONE) Holocene Bryant, W.A., 1985b, 1985e, 1988d Hart and others, 1986 (p. 21-24, Plate 1) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 51) EFZ: Long Beach. Los Alamitos. Seal Beach 442 LOS ALAMITOS FAULT Late Quaternary? Ziony and Jones, 1989 443 NORWALK FAULT? Age? Hill, M.L., 1989 (no good evidence for fault) Tan and others, 1984 (p. 12. 13, 28, 29) Yerkes. R.F., 1972 (p. 31) Ziony and Jones, 1989 (p. 14) Ziony and Yerkes, 1985 (p. 50) 444 WHITTIER FAULT (ELSINORE FAULT ZONE) Late Quaternary; Holocene Hart, E.W., 1979b Treiman, J.A., 1991a (Holocene age) Greenwood and Morton, 1991 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 49) Rockwell, T.K., 1990 (Holocene age) Hart and others, 1991 EFZ: Yorba Linda, Prado Dam. El Monte, La Habra 445 PERALTA HILLS FAULT Late Quaternary Greenwood and Morton, 1991 Morton and others, 1999 Wills, C.J., 1988b Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 50) Hart and others. 1989 446 FRESNO FAULT TIN MINE FAULT MAIN STREET FAULT (ELSINORE FAULT ZONE) Holocene; Late Quaternary Weber, F.H., Jr., 1977 Treiman, J.A., 2002c Zionv and Jones. 1989 Ziony and Yerkes, 1985 (p. 49) EFZ: Corona South 447 CLAREMONT FAULT (SAN JACINTO FAULT ZONE)

Holocene Hart, E.W., 1979a Kahle, J.E., 1987 Morton, D.M., 1978a Riverside County, 2001 Sharp, R.V., 1972 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 48) EFZ: Sunnymead, San Bernardino South, El Casco 448 SAN GORGONIO PASS FAULT ZONE (WESTERN EXTENSION) Late Quaternary Matti and others, 1985 Molinari and others, 1988 449 BANNING FAULT (WESTERN PART) Late Quaternary; Holocene Matti and others, 1985 Treiman, J.A., 1994b Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 58) EFZ: Cabazon, Whitewater 450 MISSION CREEK FAULT (SAN ANDREAS FAULT ZONE) Late Quaternary Dibblee, T.W., Jr., 1964b, 1967a, Matti and others, 1985, 1992 Proctor, R.J., 1968 EFZ: SE 1/4 and SW 1/4 Morongo Valley, SE 1/4 and SW 1/4 San Gorgonio Mtn. 451 MORONGO VALLEY FAULT Holocene; Late Quaternary Bortugno, E.J., 1986 Dibblee, T.W., Jr., 1967a Proctor, R.J., 1968 EFZ: SE 1/4 Morongo Valley 451A LONG CANYON FAULT Holocene Rvmer. M.J., 1993 452 SOUTH BRANCH SAN ANDREAS FAULT (BANNING STRAND) Holocene; Historic (1986 earthquake ruptures; 1983 creep) CDWR, 1964 Hope, R.A., 1969 Popenoe, F.W., 1959 Matti and others, 1985 Sharp and others, 1986b Smith, D.P., 1979c Treiman, J.A., 1994b EFZ: Whitewater, Desert Hot Springs, Seven Palms Valley, Cathedral City, Myoma 453 NORTH BRANCH SAN ANDREAS FAULT (COACHELLA STRAND) Holocene CDWR, 1964 Clark, M.M., 1984 (p. 4) Hope, R.A., 1969 Popenoe, F.W., 1959 Smith, D.P., 1979c EFZ: Desert Hot Springs, Seven Palms Valley, NE 1/4 Thousand Palms, Myoma

454 GARNET HILL FAULT (SAN ANDREAS FAULT ZONE) Holocene; Late Quaternary Treiman, J.A., 1994b Matti and others, 1985, 1992 EFZ: Whitewater

#### 455

SAN GORGONIO PASS FAULT ZONE Holocene Treiman, J.A., 1994b Matti and others, 1985 Ziony and Jones, 1989 EFZ: Cabazon, Whitewater

#### 456

BEAUMONT PLAIN FAULT ZONE Late Quaternary Hart and others, 1979 Matti and others, 1985 (p. 14) Matti and Morton, 1993 Riverside County, 2001 Ziony and Jones, 1989

#### 457

CASA LOMA FAULT Holocene; creep since 1939 probably owing to groundwater withdrawal; 1899? Hart, E.W., 1979a Kahle, J.E., 1987 Morton, D.M., 1978b Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 49) EFZ: EI Casco, Lakeview, San Jacinto

#### 458

HOT SPRINGS FAULT (SAN JACINTO FAULT ZONE) Late Quaternary; Holocene (at north end) Riverside County, 2001 Hart, E.W., 1979a Matti and others, 1985 Sharp, R.V., 1967 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 49) EFZ: San Jacinto, NE 1/4 Hemet, NW 1/4 Idyllwild

#### 459

CLARK FAULT (SAN JACINTO FAULT ZONE) Holocene; Quaternary Hart, E.W., 1979a Riverside County, 2001 Sharp, R.V., 1972 Janecke and others, 2008 Ziony and Jones, 1989 EFZ: SW 1/4 and SE 1/4 Idyllwild, Bucksnort Mtn., Collins Valley, Clark Lake NE, Clark Lake, Fonts Point

#### 460

WILDOMAR FAULT (ELSINORE FAULT ZONE) Holocene Greenwood, R.B., 1992 Hart and others, 1979 (Table 1) Kennedy, M.P., 1977 (p. 9 and Plate 1) Morton and Weber, 2003 Saul, R.B., 1979 Smith, D.P., 1979e Wills, C.J., 1988c Ziony and Jones, 1989 Hart and others, 1989 EFZ: Elsinore, Wildomar, Murrieta, Temecula, Pechanga, Pala

#### 461

GLEN IVY NORTH FAULT (ELSINORE FAULT ZONE) Holocene Greenwood, R.B., 1992 Hart and others, 1979 (Table 1) Morton and Weber, 2003 Smith, D.P., 1979e Treiman, J.A., 2002c Weber, F.H., Jr., 1977 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 50) EFZ: Corona South, Lake Mathews, Alberhill

#### 462

GLEN IVY SOUTH FAULT (ELSINORE FAULT ZONE) Holocene; Late Quaternary in southeastern part Greenwood, R.B., 1992 Smith, D.P., 1979e Weber, F.H., Jr., 1977 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 50) EFZ: Alberhill, Lake Mathews

#### 463

PELICAN HILL FAULT Late Quaternary Clark and others, 1986 (age, p. 46) Miller and Tan, 1976 Tan and Edgington, 1976 Vedder, J.G., 1975 Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 51)

### 464

UNNAMED FAULTS ON CATALINA ISLAND Pre-Quaternary Boundy-Sanders and others, 1990

# 465

NEWPORT INGLEWOOD-ROSE CANYON FAULT ZONE (OFFSHORE) Quaternary Clarke and others, 1987 Ryan and others, 2009 466 CRISTIANITOS FAULT ZONE (OFFSHORE) Quaternary Clarke and others, 1987 467

## WILLARD FAULT

(ELSINORE FAULT ZONE) Late Quaternary; Holocene Greenwood, R.B., 1992 Hart and others, 1979 (Table 1 and Plate 1) Kennedy, M.P., 1977, 2000 Kennedy and Morton, 2003 Rockwell, T.K., 1990 (partly Holocene) Morton and Weber, 2003 Tan and Kennedy, 2000 Wills, C.J., 1988c Ziony and Jones, 1989 EFZ: Murrieta

#### 468

MURRIETTA HOT SPRINGS FAULT Late Quaternary; Holocene? Greenwood and Morton, 1991 Kennedy, M.P., 1977 (p. 10 and Plate 1) Kennedy and Morton, 2003 Rockwell, T.K., 1990 (probably Holocene) Ziony and Jones, 1989 Ziony and Yerkes, 1985 (p. 50)

#### 469

WOLF VALLEY FAULT AND GROUND CRACKS Holocene; Late Quaternary Kennedy, M.P., 1977 (p. 9-10 and Plate 1) Tan and Kennedy, 2000 Wills, C.J., 1988c Ziony and Yerkes, 1985 (p. 50) Hart and others, 1989 EFZ: Pechanga

#### 470

FAULTS FLANKING AGUA TIBIA MOUNTAIN (PART OF ELSINORE FAULT) Late Quaternary? Kennedy, M.P., 2000 Vaughan and Rockwell, 1986 (p. 188) Ziony and Jones, 1989

#### 471

BUCK RIDGE FAULT Late Quaternary Sharp, R.V., 1967, 1972 EFZ: Clark Lake, Collins Valley, SW 1/4 Palm Desert, SE 1/4 Idyllwild

#### 472

SAN ANDREAS FAULT ZONE (INDIO TO SALTON SEA) Holocene; Historic (1979, 1968 ground ruptures; 1992, 1999 triggered creep) Babcock, E.A., 1969 Bryant, W.A., 2010 CDWR, 1964 Clark, M.M., 1984 Dibblee, T.W., Jr., 1954 Hope, R.A., 1969 Popenoe, F.W., 1959 Rymer and others, 2002 Ware, G.C., 1958 Williams and others, 1988 (triggered creep) Bilham and others, 1992 (triggered creep) EFZ: Indio, SW 1/4 Lost Horse Mtn., Thermal Canyon, Mecca, Mortmar, Orocopia Canyon, Salton, Durmid, Frink NW. Frink

#### 473

UNNAMED FAULTS EAST OF SAN ANDREAS FAULT Late Quaternary Clark, M.M., 1984 Hope, R.A., 1969 Popenoe, F.W., 1959 473A CHIRIACO FAULT Pre-Quaternary Powell, RE., 1975, 1981 474 **BLYTHE GRABEN** Late Quaternary Purcell and Miller, 1980 475 HIDDEN SPRINGS FAULT Late Quaternary Crowell, J.C., 1962

EFZ: Durmid, Orocopia Canyon, Mortmar 476 HOT SPRINGS FAULT Holocene Bryant, W.A., 1987a EFZ: Frink NW, Frink 477 SAN ANDREAS FAULT (AT BOMBAY BEACH AND VICINITY) Holocene; Late Quaternary Bryant, W.A., 1987a Clark, M.M., 1984 Hope, R.A., 1969 Popenoe, F.W., 1959 Townley and Allen, 1939 (1868 fissure) EFZ: Frink, Frink NW, Durmid 478 COYOTE MOUNTAIN FAULT AND OTHER YOUNG FAULTS IN VICINITY Holocene; Late Quaternary Sharp, R.V., 1972 Theodore and Sharp, 1975 479 COYOTE CREEK FAULT Holocene; Historic (1968 earthquake rupture; creep) Allen and others, 1972 Clark, M.M., 1972a Dibblee, T.W., Jr., 1954 Harsh, P.W., 1977 Sharp and Clark, 1972 Sharp, R.V., 1967, 1972, 1992 (triggered creep) EFZ: Bucksnort Mtn., Collins Valley, Clark Lake NE, Borrego Palm Canyon, Clark Lake, Borrego Sink, Borrego Mountain, Shell Reef, Borrego Mountain SE, Harpers Well 480 IONE FAULT (FOOTHILLS FAULT SYSTEM) Late Quaternary Page and Sawyer, 1994 481 UNNAMED FAULTS Late Quaternary; Holocene? Clark, M.M., 1982, and written communication 8/15/1989 Kahle, J.E., 1988a 482 EARTHQUAKE VALLEY FAULT Holocene; late Quaternary Steely and others, 2009 Clark, M.M., 1982, and written communication, 8/15/89 Smith, D.P., 1979d Hart and others, 1979 EFZ: Earthquake Valley, Julian, Ranchita 483 ELSINORE FAULT

Riverside County, 2001

ELSINURE FAULI (JULIAN SECTION ELSINORE FAULT ZONE) Holocene; Late Quaternary Clark, M.M., 1982 Hart and others, 1979 Kennedy, M.P., 1977 Smith, D.P., 1979a EFZ: Carrizo Mtn., Sweeney Pass, Arroyo Tapiado, Agua Caliente Springs, Monument Peak, Julian, Earthquake Valley, Mesa Grande, Warners Ranch

484 CORONADO BANK FAULT ZONE (OFFSHORE CORONADO BANK-PALOS VERDES SECTION) Holocene; Late Quaternary Ryan and others, 2009 Clarke and others, 1987 Legg and Kennedy, 1993 Vedder and others, 1986b 484A THIRTY MILE BANK FAULT (OFFSHORE) Quaternary; Pre-Quaternary Legg and Kennedy, 1993 485 SAN CLEMENTE FAULT (OFFSHORE) Late Quaternary; Holocene; Undivided Quaternary; Historic? (1951 earthquake) Clarke and others, 1987 Legg and Kennedy, 1979 (p. 42); 1993 Legg and others, 1989 (late Quaternary age, p. 1727) Richter, C.F., 1958 (p. 446) Vedder and others, 1986b 486 SAN DIEGO TROUGH FAULT (OFFSHORE) Holocene; Late Quaternary Ryan and others, 2009 Clarke and others, 1987 Legg, M.A., 1985 Legg and Kennedy, 1993 487 MISSION BAY FAULT Late Quaternary Kennedy and Peterson, 1975 Treiman, J.A., 1984 488 POINT LOMA FAULT ZONE Late Quaternary Kennedy and others, 1975 (p. 13, Plate 1) Treiman, J.A., 1993 489 CORONADO BANK FAULT ZONE (OFFSHORE CORONADO BANK SECTION) Holocene; Late Quaternary; Undivided Quaternary Clarke and others, 1987 Ryan and others, 2009 Legg, M.R., 1985 Legg and others, 1989 490 CORONADO FAULT Holocene; Late Quaternary Clarke and others, 1987 Kennedy and Clark, 1999 Treiman, J.A., 2002d Legg and Kennedy, 1993 490A SPANISH BIGHT FAULT Holocene; Late Quaternary Clarke and others, 1987 Kennedy and Clark, 1999 Kennedy and Welday, 1980 Treiman, J.A., 2002d Legg and Kennedy, 1993 491 ROSE CANYON FAULT ZONE Holocene; Late Quaternary; Quaternary Kennedy and Peterson, 1975 Treiman, J.A., 1984, 1990b

Hart and others, 1991 Lindvall and Rockwell, 1995 Legg and Kennedy, 1993 EFZ: La Jolla, Point Loma 492 OLD TOWN FAULT (ROSE CANYON FAULT SEGMENT) Late Quaternary? Kennedy and Peterson, 1975 Treiman, J.A., 1993 493 LA NACION FAULT ZONE SWEETWATER FAULT Quaternary Kahle, J.E., 1988b Kennedy and Tan, 1977 Hart and others, 1989 493A SILVER STRAND FAULT (OFFSHORE) Late Quaternary Kennedy and Welday, 1980 Kennedy and Clark, 1999 Clarke and others, 1987 Legg and Kennedy, 1993 Treiman, J.A., 2002d 494 THING VALLEY FAULT PINE VALLEY FAULT OTHER UNNAMED FAULTS Pre-Tertiary; Quaternary Todd, V.A., 1979 Kahle, J.E., 1988a (Quaternary) 494A UNNAMED FAULTS Pleistocene; Holocene Kahle, J.E., 1988a 495 LAGUNA MEADOW FAULT Quaternary in part; Pre-Tertiary in part Todd, V.A., 1979 496 ELSINORE FAULT (COYOTE MOUNTAIN SECTION ELSINORE FAULT ZONE) Holocene Kahle, J.E., 1988a Smith, D.P., 1979a Rockwell and Pinault, 1986 (p. 193-196) Todd, V.R., 2004 EFZ: Carrizo Mtn. 497 TAHOE VALLEY FAULT ZONE Quaternary Schweickert and others, 2000 498 KANE SPRING FAULT (SAN JACINTO FAULT ZONE) Late Quaternary; Historic (1987 earthquake rupture) Hudnut and others, 1989 Sharp and others, 1989 Treiman, J.A., 1989b

EFZ: Kane Spring

499 ELMORE RANCH FAULT AND ELMORE RANCH EAST FAULT (SAN JACINTO FAULT ZONE) Historic (1987 earthquake rupture; 1992 triggered creep) Hudnut and others, 1989 Kahle and others, 1988 Sharp and others, 1989 Sharp, R.V., 1992 (triggered creep) Treiman, J.A., 1989b Hart and others, 1989 EFZ: Kane Spring 500 LONE TREE FAULT (SAN JACINTO FAULT ZONE) Historic (1987 earthquake rupture); Late Quaternary Hudnut and others, 1989 Sharp and others, 1989 Treiman, J.A., 1989b EFZ: Kane Spring 501 SMOKETREE WASH FAULT Late Quaternary Riverside County, 2001 502 BRAWLEY SEISMIC ZONE Historic Johnson and Hill. 1982 503 UNNAMED FAULTS AND LINEAMENTS Late Quaternary or Holocene Heath, E.G., 1980 (p. 470, 471) 504 SUPERSTITION HILLS FAULT (SAN JACINTO FAULT ZONE) Historic (1987, 1979, 1968, 1951 earthquake ruptures; 1992, 1999 triggered creep); Late Quaternary Allen and others, 1965 Fuis, G.S., 1982 (Plate 2) Grantz and Wyss, 1972 (Plate 2) Kahle and others, 1988 Rymer and others, 2002 Sharp and others, 1986a (1981 triggered creep) Sharp and others, 1989 Sharp, R.V., 1992 (triggered creep) Treiman, J.A., 1989b Hart and others, 1991 EFZ: Superstition Mtn., Kane Spring, Brawley NW, EI Centro 505 SUPERSTITION MOUNTAIN FAULT ZONE (SAN JACINTO FAULT ZONE) Late Quaternary; Quaternary; Holocene in part Allen and others, 1972 Rockwell. T.K., 1990 (Holocene north end) Sharp and Clark, 1972 (Fig. 35) Treiman, J.A., 1989b (Holocene in part) Hart and others. 1989 EFZ: Harpers Well, Plaster City NW, Superstition Mtn., Brawley NW 506 WIENERT FAULT (SAN JACINTO FAULT ZONE)

Late Quaternary; Historic (1987 earthquake rupture)

Sharp and others, 1989

Treiman, J.A., 1989b

#### Hart, E.W., 1989 EFZ: Seeley, El Centro 507 **BRAWLEY FAULT ZONE** Historic (1979, 1975, and 1940 earthquake ruptures; triggered creep 1968) Cohn and others, 1982 (creep) Sharp and others, 1982 Sharp. R.V., 1976, 1982b (p. 219. triggered creep) Hart, E.W., 1989 EFZ: Brawley, Alamorio. Holtville West 508 **RICO FAULT** Historic (1979 earthquake rupture) Sharp and others, 1982 Hart, E.W., 1989 EFZ: Holtville West 509 **IMPERIAL FAULT** Historic (1979, 1966, 1940 earthquake ruptures; 1968 and 1971 triggered creep) Brune and Allen, 1967b Cohn and others, 1982 (creep) Hart, E.W., 1989 Sharp and others, 1982 Sharp. R.V., 1982b (p. 214, triggered creep) Sharp and others, 1986a (1981 triggered creep) Ulrich, F.P., 1941 Hart and others. 1989 EFZ: Brawley, El Centro, Holtville West, Calexico, Bonds Corner 5094 CRACKS NEAR DIXIELAND Historic Allen, C.A., 1972 (possible triggered creep) Sharp, R.V., 1989 (probably desiccation features) Smith, D.P., 1979b Kahle, J.E., 1988a 510 YUHA WELLS FAULT Late Quaternary Rockwell, T.K., 1990 511 LAGUNA SALADA FAULT IN CALIFORNIA Holocene Hart and others, 1979 Isaac, S., 1987 Kovach and others, 1962 Kahle and others, 1984 Kahle, J.E., 1988a 512 UNNAMED FAULTS EAST SIDE MADELINE PLAINS Quaternary Wagner and Saucedo, 1993 513 AMEDEE FAULT Historic (creep due to fluid withdrawal), Holocene, Quaternary Bryant and others, 1993 Grose and others, 1991

#### 514

SADDLE BLANKET FLAT FAULT ZONE Late Quaternary; Quaternary Bryant, W.A., 1990e 515 POLARIS FAULT Holocene; Late Quaternary Hunter, L.E., 2009 Melody, A.D., 2009 516 WEST TAHOE-DOLLAR POINT FAULT ZONE Holocene; Late Quaternary; Quaternary Brothers and others, 2009b Burnett, J.L., 1982 Franks, A.L., 1980 Schweickert and others. 2000 517 EXTRA FAULT Holocene Brothers and others, 2009a Janecke and others, in press 518 TAHOE-SIERRA FRONTAL FAULT ZONE Quaternary Harwood and Fisher. 2002 McCaughey, J.W., 2003 Saucedo, G.J., 2005 Schweickert and others. 2000 519 ALGODONES FAULT Quaternary Mattick and others, 1973 Olmsted and others, 1973 520 ATLAS PEAK-FOSS VALLEY LINEAMENT ZONE Quaternary Baldwin and others, 1998 521 WEST NAPA FAULT ZONE (NORTHERN SECTION) Quaternary Clahan and others, 2005 522 FRANKLIN FAULT Quaternary Graymer and others, 2006 523 CACHAGUA FAULT Quaternary Dibblee, T.W., Jr., 1974a Cotton and Associates, 1995 524 HATTON CANYON AND SYLVAN THRUST FAULTS Holocene. Quaternary Clark and others, 1997 525 WHITE MOUNTAINS FAULT ZONE (HAMMIL SECTION) Quaternary dePolo, C.M., 1989 526 **GRAPEVINE FAULT** Late Quaternary Reheis, M.C., 1991

527 TIN MOUNTAIN FAULT Late Quaternary Reheis, M.C., 1991 Reheis and Noller, 1991 528 UNNAMED FAULTS WEST OF DRY MOUNTAIN Late Quaternary Burchfiel, B.C., 1969 Bryant, W.A., 2009 (aerial photographic interpretation) Wrucke and Corbett, 1990 529 MILLER CREEK AND MORAGA FAULTS Quaternary Graymer and others, 1995, 2006 530 OWENS RIVER FAULT Historic Slemmons and others, 2008 531 CENTENNIAL FLAT FAULT Late Quaternary Slemmons and others, 2008 532 UNNAMED FAULTS IN EUREKA VALLEY Quaternary; Historic (1993 earthquake rupture) Hecker and Pezzopane, 2009 Nelson, C.A., 1971 Wrucke and Corbett, 1990 533 LOCKWOOD VALLEY AND SOUTH LOCKWOOD VALLEY FAULTS (EASTERN SECTION BIG PINE FAULT ZONE) Late Quaternary; Quaternary Carman, M.F., 1964 Kellogg and Miggins, 2002 Kellogg, K.S., 2003 Minor, S.A, 1999 534 LAVIC LAKE FAULT ZONE Holocene; Historic (1999 earthquake rupture) Treiman, J.A., 2002a Treiman and others, 2002 EFZ: Hector, Sunshine Peak, Sleeping Beauty, Lavic Lake, Lavic SE, Hidalgo Mtn., Deadman Lake NW 535 EAST WIDE CANYON FAULT (BURNT MOUNTAIN FAULT ZONE) Holocene Treiman, J.A., 1992 536 WRIGHT ROAD FAULT Holocene Treiman, J.A., 1997 EFZ: Camarillo, Santa Paula 537 SANTA ROSA VALLEY FAULT (SIMI-SANTA ROSA FAULT ZONE) Holocene Treiman, J.A., 1998 EFZ: Camarillo, Newbury Park

538 EAST MONTEBELLO FAULT Holocene Treiman, J.A., 1991a EFZ: El Monte

539 BLUE CUT FAULT ZONE (EASTERN END FORMALLY PRE-QUATERNARY) Quaternary Riverside County, 2001 Schell and Schell, 1994

540 SOUTHERN INYO MOUNTAINS FAULT Quaternary Slemmons and others, 2008 Stinson, M.C., 1977

#### 541

SAN FELIPE FAULT ZONE Late Quaternary; Quaternary Steely and others, 2009 542 **GREEN SPRINGS RUN FAULT** (FOOTHILLS FAULT SYSTEM) Late Quaternary Page and Sawyer, 2004 543 HAUPT CREEK FAULT (FOOTHILLS FAULT SYSTEM) Quaternary Page and Sawyer, 2004 544 BLACK MOUNTAIN FAULT ZONE (SOUTH-CENTRAL SECTION DEATH VALLEY FAULT SYSTEM) Holocene; Quaternary Brogan and others, 1991 Drewes, H., 1963 Machette and others, 2001a, 2001b Reheis and Noller, 1991 Wills, C.W., 1989a EFZ: Furnace Creek, Devils Golf Course, Hanaupah Canyon, Badwater, Dantes View, Mormon Point, Gold Valley, Shore Line Butte

NOTE: The names following the abbreviation EFZ (Earthquake Fault Zone) are the 7.5-minute quadrangles issued by the State Geologist showing the boundaries of officially zoned faults. For more information see:

Bryant, W.A., and Hart, E.W., 2007. Fault-rupture hazard zones in California: California Geological Survey Special Publication 42, 42p. (digital version only, electronic document available at ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sp/Sp42.pdf).

# **APPENDIX B**

# ALPHABETICAL TABLE OF FAULTS DESCRIBED IN APPENDIX A

FAULT	REF. No.	AGE
ADOBE CREEK FAULT	113	Late Quaternary
AGATE BAY FAULT	101	Quaternary
AIRPORT LAKE FAULT ZONE	250	Holocene; Late Pleistocene; Historic (1995 earthquake cracks)
ALAMO THRUST	317	Quaternary
ALMANOR FAULT ZONE	56	Quaternary
AMEDEE FAULT	513	Historic (creep due to fluid withdrawal), Holocene, Quaternary
AMERICANO CREEK FAULT	146A	Quaternary
ANTELOPE VALLEY FAULT	130	Holocene; Quaternary
ARRASTRE CANYON NARROWS FAULT	409	Late Quaternary?
ARROYO DEL OSO FAULT	258	Late Quaternary
ARROYO LAGUNA FAULT	256	Late Quaternary
ARROYO PARIDA FAULT	327	Late Quaternary
ASCENCION FAULT (OFFSHORE)	219	Quaternary
ASH CREEK FAULT ZONE	20	Quaternary
ASH HILL FAULT	246	Holocene; Late Quaternary
ATLAS PEAK-FOSS VALLEY LINEAMENT ZONE	520	Quaternary
AVALON -COMPTON FAULT	434	Holocene; Late Quaternary
BAD RIDGE FAULT	107	Quaternary (Possibly late Pleistocene)
BAILEY FAULT	350	Late Quaternary
BALD MOUNTAIN FAULT	33	Quaternary
BALD MOUNTAIN-BIG LAGOON FAULT ZONE (OFFSHORE)	16	Late Quaternary
BANNING FAULT (EASTERN PART) (SOUTH BRANCH SAN ANDREAS FAULT)	452	Holocene; Historic; (1986 earthquake ruptures; 1983 creep)
BANNING FAULT (WESTERN PART)	449	Late Quaternary; Holocene
BARTLETT SPRINGS FAULT	92	Holocene; Quaternary
BASELINE FAULT	305	Late Quaternary
BATTLE CREEK FAULT	55	Late Quaternary; Quaternary
BAY ENTRANCE FAULT	41	Late Quaternary
BEAR HARBOR FAULT ZONE	89	Late Quaternary
BEAR MOUNTAINS FAULT ZONE (BOWIE FLAT FAULT) (FOOTHILLS FAULT SYSTEM)	168	Late Quaternary
BEAR MOUNTAINS FAULT ZONE (HIGHWAY 49 FAULT) (FOOTHILLS FAULT SYSTEM)	104	Late Quaternary
BEAR MOUNTAINS FAULT ZONE (MAIDU EAST FAULT) (FOOTHILLS FAULT SYSTEM)	126	Late Quaternary?
BEAR MOUNTAINS FAULT ZONE (NEGRO JACK POINT FAULT) (FOOTHILLS FAULT SYSTEM)	171	Late Quaternary
BEAR MOUNTAINS FAULT ZONE (RESCUE FAULT) (FOOTHILLS FAULT SYSTEM)	127	Late Quaternary

FAULT	REF. No.	AGE
BEAR MOUNTAINS FAULT ZONE (YOUNGS CREEK FAULT) (FOOTHILLS FAULT SYSTEM)	136	Quaternary
BEAR RIVER FAULT ZONE	81	Quaternary
BEAR RIVER FAULT ZONE (OFFSHORE)	49	Quaternary
BEAR WALLOW FAULT	54	Pre-Quaternary
BEAUMONT PLAIN FAULT ZONE	456	Late Quaternary
BEAVER CREEK FAULT	70A	Quaternary
BEN LOMOND FAULT	221	Late Quaternary at southern end
BENTON VALLEY FAULT	204	Holocene
BERROCAL FAULT	195	Quaternary
BIG CRACK FAULT	6	Late Quaternary
BIG LAGOON FAULT	34	Quaternary
BIG MOUNTAIN FAULT (REMOVED)	345	
BIG PINE FAULT (CENTRAL SECTION BIG PINE FAULT ZONE)	318	Late Quaternary
BIG PINE FAULT (WESTERN SECTION OF BIG PINE FAULT ZONE)	307	Pre-Quaternary
BIG VALLEY FAULT	112	Late Quaternary; Historic (1906 earthquake ruptures)
BIRCH MOUNTAIN FAULT	212B	Holocene
BLACK BUTTE FAULT	172	Quaternary
BLACK FOX MOUNTAIN FAULT ZONE	21	Quaternary
BLACK MOUNTAIN FAULT ZONE (SOUTH-CENTRAL SECTION DEATH VALLEY FAULT SYSTEM)	544	Holocene; Quaternary
BLACKWATER FAULT	370	Holocene; Quaternary
BLOOMFIELD FAULT	146	Quaternary
BLUE CUT FAULT ZONE (EASTERN END FORMALLY PRE- QUATERNARY)	539	Quaternary
BLUE LAKE FAULT	39	Holocene
BLYTHE GRABEN	474	Late Quaternary
BONEY MOUNTAIN FAULT	351	Quaternary
BOTTLE SPRINGS FAULT	68	Quaternary
BOWEN RANCH FAULT	406	Late Quaternary?
BOWIE FLAT FAULT (BEAR MOUNTAINS FAULT ZONE) (FOOTHILLS FAULT SYSTEM)	168	Late Quaternary
BRADLEY CANYON FAULT	294	Quaternary
BRAWLEY FAULT ZONE	507	Historic (1979. 1975, and 1940 earthquake ruptures; triggered creep 1968)
BRAWLEY SEISMIC ZONE	502	Historic
BRICELAND FAULT	86	Quaternary
BRIDGEPORT BASIN FAULT OF M. CLARK (IN PART ROBINSON CREEK FAULT)	133	Holocene; Late Quaternary; Quaternary
BROADWELL LAKE FAULT	378B	Early Quaternary
BROWN MOUNTAIN FAULT	269	Holocene
BUCK RIDGE FAULT	471	Late Quaternary
BUENA VISTA FAULT	276	Historic (creep owing to oil withdrawal)

FAULT	REF. No.	AGE
BULLION FAULT	418	Holocene
BURDELL MOUNTAIN FAULT	150A	Quaternary
BURNT MOUNTAIN FAULT	424C	Historic (Landers. 1992 earthquake rupture); Holocene
BUTANO FAULT	193	Quaternary ?
CABRILLO FAULT	438	Late Quaternary onshore; Holocene offshore
CACHAGUA FAULT	523	Quaternary
CALAVERAS FAULT (CENTRAL PART)	187	Holocene; Historic (minor 1979 fault break at Anderson Lake and south of Coyote Reservoir); Late Quaternary
CALAVERAS FAULT (NORTHERN PART)	177	Historic (1861); Holocene; Late Quaternary
CALAVERAS FAULT (SOUTHERN PART)	224	Historic (creep); Holocene; Late Quaternary
CALICO FAULT	376	Holocene
CAMARILLO FAULT	349	Holocene
CAMBRIA FAULT	281	Late Quaternary
CAMP ROCK FAULT	380	Holocene; Historic (1992 earthquake ruptures)
CAPAY FAULT	123	Pre-Quaternary?
CARNEGIE FAULT	172A	Holocene in part
CARPINTERIA FAULT	326	Late Quaternary
CARSON VALLEY FAULT	128	Holocene
CASA LOMA FAULT	457	Holocene; creep since 1939 probably owing to groundwater withdrawal; 1989?
CASCADIA SUBDUCTION ZONE, SEAWARD EDGE OF (OFFSHORE)	15	Holocene
CASMALIA FAULT	295	Late Quaternary
CEDAR MOUNTAIN FAULT ZONE	4	Late Quaternary; Holocene
CENTENNIAL FLAT FAULT	531	Late Quaternary
CENTRAL AVENUE FAULT	432	Late Quaternary?
CENTRAL OWENS LAKE FAULT (SOUTHERN OWENS VALLEY FAULT ZONE)	277	Historic; Holocene
CHAMBERLAIN FAULT	91C	Pre-Quaternary
CHARNOCK FAULT	435	Late Quaternary
CHATSWORTH FAULT	352	Late Quaternary
CHEMEHUEVI GRABEN	377	Late Quaternary
CHERRY HILL FAULT (NEWPORT-INGLEWOOD FAULT ZONE)	441	Holocene
CHICO MONOCLINE FAULT	72	Quaternary
CHINO FAULT	431	Late Quaternary
CHIRIACO FAULT	473A	Pre-Quaternary
CHUPINES FAULT	235	Quaternary
CLAMSHELL-SAWPIT CANYON FAULT ZONE	385	Late Quaternary
CLAREMONT FAULT	447	Holocene
CLARK FAULT (SAN JACINTO FAULT ZONE)	459	Holocene
CLAYTON FAULT	165	Holocene; Quaternary
CLEARWATER FAULT	314	Late Quaternary

FAULT	REF. No.	AGE
CLEGHORN FAULT	403	Late Quaternary; Holocene?
CLEGHORN LAKE FAULT	422A	Quaternary
CLEVELAND HILL FAULT (FOOTHILLS FAULT SYSTEM)	95	Historic (1975 earthquake ground rupture); Quaternary
CLOVER VALLEY FAULT ZONE	110	Quaternary
CLOVIS FAULT	242	Pre-Quaternary
COAST RANGE FAULT	76	Pre-Quaternary
COHASSET RIDGE FAULT	70	Quaternary?
COLLAYOMI FAULT	120	Late Quaternary
COLTON FAULT	429	Late Quaternary
COMPTON FAULT	434	Holocene; Late Quaternary
CONCORD FAULT	160	Historic (active creep); Holocene
COPPER MOUNTAIN FAULT	423	Holocene; Late Quaternary
CORDELIA FAULT	155	Holocene in southern part; Late Quaternary in northern part
CORNING FAULT	73	Quaternary
CORONADO BANK FAULT ZONE (OFFSHORE CORONADO BANK- PALOS VERDES SECTION)	484	Holocene; Late Quaternary
CORONADO BANK FAULT ZONE (OFFSHORE CORONADO BANK SECTION)	489	Holocene; Late Quaternary; Undivided Quaternary
CORONADO FAULT (OFFSHORE)	490	Holocene; Late Quaternary
CORRAL HOLLOW FAULT	173	Quaternary
COTTONEVA FAULT	91A	Pre-Quaternary
COYOTE CREEK FAULT (SANTA CLARA COUNTY)	215	Quaternary
COYOTE CREEK FAULT (SAN DIEGO COUNTY)	479	Holocene; Historic (1968 earthquake rupture; creep)
COYOTE CREEK FAULT SEGMENT?	480	Holocene
COYOTE LAKE FAULT	371	Quaternary?
COYOTE MOUNTAIN FAULT	478	Holocene; Late Quaternary
CRAFTON HILLS FAULT ZONE	428	Holocene; Late Quaternary
CRISTIANITOS FAULT ZONE (OFFSHORE)	466	Quaternary
CROSLEY FAULT	188	Holocene (in part)
CROSS SPRING FAULT	109	Quaternary (in part)
CUCAMONGA FAULT	399	Holocene
CYPRESS POINT FAULT	231	Quaternary (offsets Quaternary deposits offshore)
DAVIS FAULT	159	Quaternary
DAVIS CREEK FAULT	7B	Late Quaternary
DEEP SPRINGS FAULT	210	Holocene; Late Quaternary
DEL VALLE FAULT	343	Late Quaternary?
DEWITT FAULT (FOOTHILLS FAULT SYSTEM)	125	Late Quaternary; Holocene?
DIAMOND MOUNTAINS FAULT (LAST CHANCE FAULT ZONE)	64	Quaternary
DRY CREEK THRUST	317	Quaternary
DUARTE FAULT	395	Late Quaternary; possibly Holocene along northern strand near Azusa 124

FAULT	REF. No.	AGE
DUNNIGAN HILLS (ZAMORA) FAULT	124	Late Quaternary; Holocene?
EAGLE ROCK FAULT	386	Late Quaternary?
EARTHQUAKE VALLEY FAULT	482	Holocene
EAST CEDAR MOUNTAIN FAULT ZONE (SOUTHERN PART)	11	Holocene
EAST HUASNA FAULT	290	Quaternary
EAST MONTEBELLO FAULT	538	Holocene
EAST TRACE LITTLE SALMON FAULT	46	Late Quaternary
EAST VALLEY FAULT	138	Pre-Quaternary
EAST WIDE CANYON FAULT (BURNT MOUNTAIN FAULT ZONE)	535	Holocene
EATON ROUGHS FAULT ZONE	44	Quaternary
EDNA FAULT ZONE	282	Quaternary
EL PASO FAULT	273	Late Quaternary
ELMORE RANCH FAULT AND ELMORE RANCH EAST FAULT	499	Historic (1987 earthquake rupture; 1992 triggered creep)
ELSINORE FAULT (JULIAN SECTION ELSINORE FAULT ZONE)	483	Holocene; Late Quaternary
ELSINORE FAULT (COYOTE MOUNTAIN SECTION ELSINORE FAULT ZONE)	496	Holocene
EMERSON FAULT	420	Holocene; Historic (1992 earthquake ruptures)
ETSEL RIDGE FAULT	91	Quaternary?
EUREKA PEAK FAULT	424B	Historic (1992 earthquake rupture); Holocene
EXTRA FAULT	517	Holocene
EVERGREEN FAULT	197	Holocene
FAULTS IN LAKE ALMANOR REGION, INCLUDING KEDDIE RIDGE AND WALKER SPRING FAULTS	359	Late Quaternary; Quaternary
FERNDALE FAULT	158	Quaternary
FICKLE HILL FAULT	42	Holocene
FISH LAKE VALLEY FAULT ZONE (NORTHERN SECTION DEATH VALLEY FAULT SYSTEM)	223	Holocene
FISH SLOUGH FAULT	208	Holocene
FITZHUGH CREEK FAULT	7C	Quaternary
FORT SAGE FAULT	62	Historic (1950 earthquake rupture)
FOXEN CANYON FAULT	304	Late Quaternary
FRANKLIN FAULT	522	Quaternary
FRAZIER MOUNTAIN THRUST	317	Quaternary
FRESHWATER FAULT	50	Quaternary
FRESNO FAULT (ELSINORE FAULT ZONE)	446	Holocene; Late Quaternary
FRIJOLES FAULT	192	Holocene; Quaternary
FURNACE CREEK FAULT	240	Quaternary
GALWAY LAKE FAULT	416	Historic (ground rupture, 1975 and 1992 earthquakes)
GARBERVILLE FAULT ZONE	79	Quaternary
GAREY FAULT	303	Quaternary

FAULT	REF. No.	AGE
GARLOCK FAULT, SOUTH BRANCH	310	Holocene
GARLOCK FAULT ZONE	270	Holocene; Late Quaternary
GARLOCK FAULT ZONE (GROUND BREAKS IN FREMONT VALLEY)	272	Holocene; Historic (owing to ground water withdrawal)
GARLOCK FAULT ZONE (SURFACE BREAK ON)	274	Historic (1952 Arvin-Tehachapi earthquake)
GARNET HILL FAULT (SAN ANDREAS FAULT ZONE)	454	Holocene; Late Quaternary
GENOA FAULT (ALSO CALLED CARSON VALLEY FAULT)	128	Holocene
GIANT GAP FAULT (MELONES FAULT ZONE OF CLARK) (FOOTHILLS FAULT SYSTEM)	103	Quaternary
GILLEM FAULT	5	Late Quaternary; Quaternary
GILLIS CANYON FAULT	262	Holocene
GLEN HELEN FAULT (SAN JACINTO FAULT ZONE)	402	Holocene
GLEN IVY NORTH FAULT (ELSINORE FAULT ZONE)	461	Holocene
GLEN IVY SOUTH FAULT (ELSINORE FAULT ZONE)	462	Holocene; Late Quaternary in southeastern part
GOLD HILL THRUST FAULT	253	Pre-Quaternary
GOOSE LAKE FAULT (MODOC COUNTY)	7A	Late Quaternary
GOOSE LAKE FAULT (HUMBOLDT COUNTY)	52	Holocene
GRAPEVINE FAULT	526	Late Quaternary
GRASS VALLEY FAULT (PART OF CLEGHORN FAULT ZONE)	404	Late Quaternary?
GRAVEL HILLS FAULT	368	Holocene
GREEN VALLEY FAULT	154	Holocene; Historic (creep)
GREEN SPRINGS RUN FAULT (FOOTHILLS FAULT SYSTEM)	542	Late Quaternary
GREENVILLE FAULT	174	Late Quaternary; Historic (1980 earthquake rupture); Quaternary
GROGAN FAULT	32	Quaternary
GROGAN FAULT (OFFSHORE)	14	Quaternary
GROGAN-RED MOUNTAIN FAULT ZONE	77	Age?
HARPER FAULT ZONE	369	Holocene
HARPER LAKE FAULT	373	Late Quaternary; Holocene?
HARTLEY SPRINGS FAULT	201	Holocene; Late Quaternary; Quaternary
HASKINS VALLEY FAULT	68A	Quaternary
HAT CREEK FAULT	29	Holocene
HATHAWAY CREEK FAULT	118	Late Quaternary
HATTON CANYON THRUST FAULT	524	Holocene, Quaternary
HAUPT CREEK FAULT (FOOTHILLS FAULT SYSTEM)	543	Quaternary
HAYWARD FAULT (NORTHERN PART)	163	Historic (1868 earthquake rupture; creep); Holocene
HAYWARD FAULT (SECONDARY CRACKS (?) ADJACENT TO)	186	Historic (1868 earthquake cracks?)
HAYWARD FAULT (SOUTHEAST EXTENSION)	199	Holocene
HAYWARD FAULT (SOUTHERN PART)	196	Holocene

FAULT	REF. No.	AGE
HEALDSBURG FAULT	142	Quaternary
HELENDALE FAULT	382	Holocene; Late Quaternary
HELENDALE FAULT (SOUTHEAST EXTENSION)	413	Quaternary
HIDALGO FAULT	419	Holocene; Quaternary
HIDDEN SPRINGS FAULT	475	Late Quaternary
HIGHWAY 49 FAULT (BEAR MOUNTAINS FAULT ZONE) (FOOTHILLS FAULT SYSTEM)	104	Late Quaternary
HILLSIDE FAULT	179A	Pre-Quaternary?
HILTON CREEK FAULT	202	Historic (1980); Holocene; Quaternary
HOLLYWOOD FAULT	392	Holocene
HOLSER FAULT	342	Late Quaternary?
HOMESTEAD VALLEY FAULT	421	Holocene; Historic (1979,1992 earthquake ruptures)
HONDA FAULT	300	Late Quaternary?
HONEY LAKE FAULT ZONE	60	Holocene; Quaternary
HOSGRI FAULT ZONE (OFFSHORE)	287	Quaternary; Holocene
HOT SPRINGS FAULT (IMPERIAL COUNTY)	476	Holocene
HOT SPRINGS FAULT (RIVERSIDE COUNTY)	458	Late Quaternary; Holocene (at north end)
HUNTER MOUNTAIN FAULT	244	Holocene; Late Quaternary
HUNTING CREEK FAULT	122	Holocene
HUNTING FAULT	121	Quaternary
IKES MOUNTAIN FAULT	2	Late Quaternary; Quaternary
IMPERIAL FAULT	509	Historic (1979, 1966, 1940 earthquake ruptures; 1968 and 1971 triggered creep)
INDEPENDENCE FAULT	243	Holocene; Late Quaternary
INDIAN HILL FAULT	397	Late Quaternary
INDIAN VALLEY FAULT	66	Holocene? (in part)
INGLEWOOD FAULT (NEWPORT-INGLEWOOD FAULT ZONE)	434	Holocene; Late Quaternary; surface faulting (creep) since 1957 due to oil and gas withdrawal
IONE FAULT (FOOTHILLS FAULT SYSTEM)	480	Late Quaternary
JAVON CANYON FAULT	332	Holocene
JESS VALLEY FAULT	70	Quaternary
JOHNSON VALLEY FAULT	415	Holocene; Historic (1979, 1992 earthquake ruptures)
KANE SPRING FAULT	498	Late Quaternary; Historic (1987 earthquake rupture)
KEANE WONDER FAULT	244A	Quaternary
KERN CANYON FAULT	252	Holocene
KERN FRONT FAULT	264	Historic, actively creeping fault triggered by fluid withdrawal; Quaternary
KERN GORGE FAULT	265	Late Quaternary
KING RANGE THRUST ZONE	85	Quaternary-Late Quaternary
KINGS CANYON LINEAMENT	213	Age?
KIRBY HILL FAULT	156	Late Quaternary?
KRAMER HILLS FAULT	364	Late Quaternary
		+

FAULT	REF. No.	AGE
LA PANZA FAULT	280	Quaternary
LAGUNA MEADOW FAULT	495	Quaternary in part; Pre-Tertiary in part
LAGUNA SALADA FAULT	511	Holocene
LAKE MOUNTAIN FAULT ZONE	78	Late Quaternary
LAS POSITAS FAULT	184	Historic (possible 1980 and 1981 ruptures); Holocene; Late Quaternary
LAVIC LAKE FAULT ZONE	534	Holocene; Historic (1999 earthquake rupture)
LAVIGIA FAULT	323	Late Quaternary
LENWOOD FAULT	381	Holocene
LEUHMAN FAULT	363	Quaternary; Late Quaternary at southeast end
LIKELY FAULT	26	Quaternary; Late Quaternary
LION CANYON FAULT	337	Late Quaternary
LIONS HEAD FAULT	296	Late Quaternary
LITTLE GRASS VALLEY FAULT	68B	Late Quaternary
LITTLE INDIAN VALLEY FAULT	108	Quaternary
LITTLE LAKE FAULT	267	Holocene; Late Quaternary; Historic (1982 earthquake cracks)
LITTLE PINE FAULT	306	Late Quaternary (northwestern part): Quaternary and pre-Quaternary (southeastern part)
LITTLE SALMON FAULT	47	Holocene
LITTLE SALMON FAULT (OFFSHORE)	37	Holocene
LIVERMORE FAULT	175	Quaternary
LLANO FAULT	361	Holocene?
LOCKHART FAULT	365	Holocene
LOCKWOOD VALLEY AND SOUTH LOCKWOOD VALLEY FAULTS (EASTERN SECTION BIG PINE FAULT ZONE)	533	Late Quaternary; Quaternary
LOMA PRIETA EARTHQUAKE (GROUND "FRACTURES' ASSOCIATED WITH)	217	Historic (17 October 1989)
LONE PINE FAULT	212A	Historic (1872 earthquake); Late Quaternary
LONE TREE FAULT	500	Historic (1987 earthquake rupture); Late Quaternary
LONG CANYON FAULT	451A	Holocene
LONG VALLEY FAULT ZONE	202A	Holocene
LOS ALAMITOS FAULT	442	Late Quaternary?
LOS ALAMOS FAULT	302	Holocene; Late Quaternary
LOS OSOS FAULT ZONE	285	Holocene; Late Quaternary
LOST MAN FAULT	17	Quaternary
LOST MAN FAULT (OFFSHORE)	13	Quaternary
LYTLE CREEK FAULT	400	Late Quaternary; Quaternary
MAACAMA FAULT ZONE (NORTHERN AND CENTRAL PARTS)	114	Holocene
MAACAMA FAULT ZONE (SOUTHERN PART)	141	Holocene
MAD RIVER FAULT	40	Holocene
MAD RIVER FAULT ZONE (OFFSHORE)	36	Holocene
MAGALIA FAULT	71	Late Cenozoic; Quaternary?
MAHOGANY MOUNTAIN FAULT ZONE	1	Holocene; Quaternary

FAULT	REF. No.	AGE
MAIDU EAST LINEAMENT (BEAR MOUNTAINS FAULT ZONE) (FOOTHILLS FAULT SYSTEM)	126	Late Quaternary?
MAIN STREET FAULT (ELSINORE FAULT ZONE)	446	Late Quaternary; Holocene
MALIBU COAST FAULT	389	Late Quaternary; Holocene
MALIBU COAST FAULT (OFFSHORE)	390	Late Quaternary
MANIX FAULT	372	Holocene; Historic (1947 earthquake rupture)
MARSH CREEK FAULT	165	Holocene; Quaternary
MAYFIELD FAULT	24	Holocene
McARTHUR FAULT	28	Holocene
McKINLEYVILLE FAULT	43	Holocene
MEADOW VALLEY FAULT (MELONES FAULT ZONE OF CLARK)	67	Quaternary
MEISS LAKE FAULT	2A	Late Quaternary; Holocene
MELONES FAULT ZONE (POORMAN GULCH FAULT) (FOOTHILLS FAULT SYSTEM)	135	Late Quaternary; Holocene?
MELONES FAULT ZONE (RAWHIDE FLAT EAST FAULT) (FOOTHILLS FAULT SYSTEM)	169	Late Quaternary; Holocene?
MELONES FAULT ZONE (RAWHIDE FLAT WEST FAULT) (FOOTHILLS FAULT SYSTEM)	170	Late Quaternary
MELONES FAULT ZONE OF CLARK (MEADOW VALLEY FAULT) (FOOTHILLS FAULT SYSTEM)	67	Quaternary
MELONES FAULT ZONE OF CLARK (GIANT GAP FAULT) (FOOTHILLS FAULT SYSTEM)	103	Quaternary ?
MENDOCINO FAULT ZONE (OFFSHORE)	83	Holocene?; Late Quaternary
MESA FAULT	325	Late Quaternary
MESQUITE LAKE FAULT	422	Holocene; Historic (1999 earthquake rupture)
MIDLAND FAULT ZONE	137	Quaternary (possibly Holocene in part)
MIDWAY FAULT	166	Late Quaternary
MILL CREEK FAULT	427	Late Quaternary
MILLER CREEK FAULT	529	Quaternary
MIRAGE VALLEY FAULT	362	Late Quaternary
MISSION FAULT	182	Quaternary
MISSION BAY FAULT	487	Late Quaternary
MISSION CREEK FAULT	450	Late Quaternary
MISSION HILLS FAULT	354	Late Quaternary or Holocene
MISSION RIDGE FAULT	327	Late Quaternary
MOHAWK VALLEY FAULT	98	Holocene and Late Quaternary
MONO LAKE FAULT (LEE VINING FAULT)	133	Holocene; Late Quaternary; Quaternary
MONTE VISTA FAULT	190	Late Quaternary; Holocene
MONTEREY BAY FAULT ZONE (OFFSHORE)	229	Holocene; Quaternary
MORAGA FAULT	529	Quaternary
MORE RANCH FAULT	322	Late Quaternary
MORONGO VALLEY FAULT	451	Holocene; Late Quaternary
MOUNT HEBRON FAULT ZONE	3	Late Quaternary?
MT. GENERAL FAULT	374	Holocene in part

FAULT	REF. No.	AGE
MURRIETA HOT SPRINGS FAULT	468	Late Quaternary; Holocene?
NAVARRO STRUCTURAL DISCONTINUITY (OFFSHORE)	117	Age?
NAVY FAULT	232	Quaternary
NEGRO JACK POINT FAULT (BEAR MOUNTAINS FAULT ZONE) (FOOTHILLS FAULT SYSTEM)	171	Late Quaternary
NELSON CORRAL FAULT	26A	Late Quaternary
NEW HOPE FAULT	264	Historic, actively creeping fault triggered by fluid withdrawal; Quaternary
NEWPORT-INGLEWOOD FAULT ZONE (SOUTH BRANCH FAULT)	439	Late Quaternary
NEWPORT-INGLEWOOD-ROSE CANYON FAULT ZONE (OFFSHORE)	465	Quaternary
NOPAH FAULT	248A	Late Quaternary and/or Holocene
NORTH BRANCH FAULT (NEW PORT-INGLEWOOD FAULT ZONE)	440	Holocene
NORTH BRANCH SAN ANDREAS FAULT (COACHELLA STRAND)	453	Holocene
NORTH FRONTAL FAULT ZONE (NORTHERN AND EASTERN SECTION NORTH FRONTAL THRUST SYSTEM)	407	Late Quaternary; Holocene
NORTH LOCKHART FAULT	367	Late Quaternary
NORTH SPIT FAULT	45	Quaternary?
NORTH TAHOE FAULT	102	Holocene
NORTHERN DEATH VALLEY FAULT ZONE (NORTH-CENTRAL SECTION DEATH VALLEY FAULT SYSTEM)	211	Holocene; Late Quaternary
NORTHRIDGE HILLS FAULT	353	Late Quaternary or Holocene
NORWALK FAULT?	443	Age?
NUNEZ FAULT	241	Historic, 1983 earthquake break
O'NEILL FAULT SYSTEM	226	Late Quaternary
OAK RIDGE FAULT (ONSHORE AND OFFSHORE)	335	Late Quaternary; Holocene south of Fillmore
OCEANIC FAULT	259	Late Quaternary
OCEANO FAULT	288	Late Quaternary
OLD TOWN FAULT (ROSE CANYON FAULT SECTION)	492	Late Quaternary?
OLD WOMAN SPRINGS FAULT	414	Holocene
ORCUTT OIL FIELD FAULTS	296A	Quaternary; Late Quaternary
ORD MOUNTAINS FAULT (WESTERN SECTION OF NORTH FRONTAL THRUST SYSTEM)	405	Holocene
ORD TERRACE FAULT	233	Quaternary?
ORTIGALITA FAULT	214	Holocene
OVERLAND AVENUE FAULT	435	Late Quaternary
OWENS RIVER FAULT	530	Historic
OWENS VALLEY FAULT	212	Holocene; Historic (1872 earthquake ground rupture)
OZENA FAULT	308	Quaternary
PACIFICO FAULT	301	Late Quaternary?
PAHRUMP VALLEY FAULT	248B	Late Quaternary
PAICINES FAULT	227	Holocene; Quaternary
PALO COLORADO FAULT (OFFSHORE AND ONSHORE)	230	Quaternary; Holocene?

FAULT	REF. No.	AGE
PALOS VERDES FAULT (ALSO KNOWN AS PALOS VERDES HILLS FAULT)	437	Late Quaternary; Holocene offshore, in part
PANAMINT VALLEY FAULT	247	Holocene; Late Quaternary; Quaternary
PARADISE FAULT	69	Late Cenozoic; Quaternary?
PARKER LAKE FAULT (SILVER LAKE FAULT)	201	Holocene; Late Quaternary; Quaternary
PELICAN HILL FAULT	463	Late Quaternary
PELONA FAULT	315	Quaternary
PERALTA HILLS FAULT	445	Late Quaternary
PETROLIA THRUST FAULT	82	Quaternary
PILARCITOS FAULT	191	Quaternary
PINE MOUNTAIN FAULT	319	Late Quaternary
PINE VALLEY FAULT	494	Pre-Tertiary; Quaternary
PINOLE FAULT	161	Quaternary
PINTO MOUNTAIN FAULT	425	Holocene; Late Quaternary
PISGAH FAULT	378	Holocene
PITAS POINT-VENTURA FAULT (OFFSHORE)	336	Quaternary; Holocene
PITTVILLE FAULT	27	Late Quaternary; Holocene
PLEASANTON FAULT	176	Holocene; Quaternary
PLEITO FAULT	309	Holocene; Quaternary
POINT LOMA FAULT ZONE	488	Late Quaternary
POINT REYES FAULT (OFFSHORE)	148	Quaternary
POLARIS FAULT	515	Holocene; Late Quaternary
POND FAULT	263	Historic, with creep caused by groundwater withdrawal
POORMAN GULCH FAULT (MELONES FAULT ZONE) (FOOTHILLS FAULT SYSTEM)	135	Late Quaternary; Holocene?
POTRERO FAULT	434	Holocene; Late Quaternary
PREMIER FAULT	264	Historic, actively creeping fault triggered by fluid withdrawal; Quaternary
QUIEN SABE FAULT	225	Holocene; Late Quaternary
RAWHIDE FLAT EAST FAULT (MELONES FAULT ZONE) (FOOTHILLS FAULT SYSTEM)	169	Late Quaternary; Holocene?
RAWHIDE FLAT WEST FAULT (MELONES FAULT ZONE) (FOOTHILLS FAULT SYSTEM)	170	Late Quaternary
RAYMOND FAULT	394	Holocene
RED BLUFF FAULT	74	Pre-Quaternary
RED HILL-ETIWANDA AVENUE FAULT	398	Late Quaternary except Holocene at eastern end
RED HILLS FAULT	261	Holocene
RED MOUNTAIN FAULT (VENTURA COUNTY)	331	Late Quaternary; Holocene
RED MOUNTAIN FAULT (TRINITY COUNTY)	77	Age?
REDONDO CANYON FAULT (OFFSHORE)	436	Holocene
RELIZ FAULT (RINCONADA FAULT ZONE)	239	Late Quaternary
RESCUE LINEAMENT (BEAR MOUNTAINS FAULT ZONE)	127	Late Quaternary

FAULT	REF. No.	AGE
RESERVOIR HILL FAULT (NEWPORT-INGLEWOOD FAULT ZONE)	441	Holocene
RESORT FAULT ZONE	106	Quaternary
RIALTO-COLTON FAULT	429	Late Quaternary
RICH BAR FAULT AT MEADOW VALLEY (BOTTLE SPRINGS FAULT)	68	Quaternary
RICO FAULT	508	Historic (1979 earthquake rupture)
RINCON CREEK FAULT	325	Late Quaternary
RINCONADA FAULT ZONE	239	Late Quaternary
RIO VISTA FAULT	157	Quaternary?
ROBINSON CREEK FAULT (IN PART BRIDGEPORT BASIN FAULT OF M. CLARK)	133	Holocene; Late Quaternary; Quaternary
ROCKY LEDGE FAULT	30A	Holocene
RODGERS CREEK FAULT	149	Holocene
RODMAN FAULT	379	Quaternary
ROSE CANYON FAULT ZONE	491	Holocene; Late Quaternary; Quaternary
ROUND VALLEY FAULT ZONE (PART OF BARTLETT SPRINGS FAULT SYSTEM)	90	Quaternary
ROUND VALLEY FAULT (NW OF BISHOP)	207	Holocene
RUSS FAULT ZONE	80	Late Quaternary; Quaternary
RUSS FAULT ZONE (OFFSHORE)	48	Late Quaternary
SADDLE BLANKET FLAT FAULT ZONE	514	Late Quaternary; Quaternary
SALT CREEK FAULT	53	Pre-Quaternary
SAN ANDREAS FAULT (AT SHELTER COVE)	87	Historic (1906 earthquake ruptures)
SAN ANDREAS FAULT (SPLAYS OFF OF)	116	Late Quaternary
SAN ANDREAS FAULT ZONE (FORT ROSS TO MANCHESTER)	119	Historic (1906 earthquake rupture); Late Quaternary
SAN ANDREAS FAULT ZONE (OFFSHORE)	145	Late Quaternary
SAN ANDREAS FAULT ZONE (BODEGA HEAD TO BOLINAS)	147	Historic (1906 earthquake rupture); Holocene
SAN ANDREAS FAULT (BOUNDARY FAULTS)	162	Late Quaternary
SAN ANDREAS FAULT ZONE (SAN FRANCISCO TO WATSONVILLE)	194	Historic (1906, 1838 earthquake ruptures; 1989 Lorna Prieta local earthquake fractures)
SAN ANDREAS FAULT ZONE (1989 GROUND FRACTURES)	217	Historic (1989 Lorna Prieta earthquake)
SAN ANDREAS FAULT ZONE (SAN JUAN BAUTISTA TO PRIEST VALLEY)	234	Historic (1906, 1890 earthquake ruptures)
SAN ANDREAS FAULT ZONE (PRIEST VALLEY TO CUYAMA)	278	Historic (1857,1901,1906.1922.1966 earthquake ruptures)
SAN ANDREAS FAULT ZONE (CUYAMA TO PALMDALE)	311	Historic (1857. 1916 earthquake ruptures)
SAN ANDREAS FAULT ZONE (PALMDALE TO CAJON CANYON)	358	Historic (1857 earthquake rupture)
SAN ANDREAS FAULT	360	Historic? (1812 earthquake rupture?)
SAN ANDREAS FAULT (CAJON CANYON TO BURRO FLATS)	427A	Holocene
SAN ANDREAS FAULT (SOUTH BRANCH – BANNING STRAND)	452	Holocene; Historic (1986 earthquake ruptures, 1983 creep)
SAN ANDREAS FAULT (NORTH BRANCH – COACHELLA STRAND)	453	Holocene
SAN ANDREAS FAULT ZONE (INDIO TO SALTON SEA)	472	Holocene; Historic (1979. 1968 ground ruptures; 1992 triggered creep)
SAN ANDREAS FAULT (AT BOMBAY BEACH AND VICINITY)	477	Holocene; Late Quaternary

FAULT	REF. No.	AGE
SAN BENITO FAULT ZONE	227	Quaternary; Late Quaternary
SAN BRUNO FAULT (DELETED)	178	
SAN CAYETANO FAULT	340	Holocene; Late Quaternary
SAN CLEMENTE FAULT (OFFSHORE)	485	Late Quaternary; Holocene; Undivided Quaternary; Historic? (1951 earthquake)
SAN DIEGO TROUGH FAULT (OFFSHORE)	486	Holocene; Late Quaternary
SAN FELIPE FAULT ZONE	541	Late Quaternary; Quaternary
SAN FERNANDO FAULT	356	Historic (1971 earthquake ruptures)
SAN GABRIEL FAULT (EASTERN PART)	384	Quaternary
SAN GABRIEL FAULT (WESTERN PART)	316	Late Quaternary; Holocene near Castaic
SAN GORGONIO MOUNTAIN FAULT	426	Late Quaternary
SAN GORGONIO PASS FAULT ZONE	455	Holocene
SAN GORGONIO PASS FAULT ZONE (WESTERN EXTENSION)	448	Late Quaternary
SAN GREGORIO FAULT	218	Holocene; creep
SAN JACINTO FAULT (SAN JACINTO FAULT ZONE)	401	Holocene; Late Quaternary
SAN JOAQUIN FAULT	200	Late Quaternary
SAN JOSE FAULT (LOS ANGELES COUNTY)	396	Late Quaternary
SAN JOSE FAULT (SANTA BARBARA COUNTY)	324	Late Quaternary
SAN JUAN FAULT	279	Quaternary
SAN LUIS BAY FAULT	283	Late Quaternary
SAN MIGUELITO FAULT	284	Pre-Quaternary
SAN PEDRO BASIN FAULT ZONE (OFFSHORE)	436A	Quaternary; Late Quaternary?
SAN RAFAEL FAULT	386	Late Quaternary?
SAN SIMEON FAULT	255	Holocene
SANTA ANA FAULT (SAN BERNARDINO COUNTY)	412	Quaternary
SANTA ANA FAULT (VENTURA COUNTY)	329	Late Quaternary
SANTA CATALINA RIDGE FAULT ZONE (OFFSHORE)	334A	Quaternary; Holocene
SANTA CRUZ-SANTA CATALINA RIDGE FAULT ZONE (OFFSHORE)	334A	Quaternary; Holocene
SANTA CRUZ ISLAND FAULT	334	Late Quaternary; Holocene; Quaternary
SANTA FELICIA FAULT	341	Late Quaternary?
SANTA LUCIA BANK FAULT (OFFSHORE)	297	Quaternary
SANTA MARIA FAULT	293	Quaternary
SANTA MARIA RIVER FAULT	304	Late Quaternary
SANTA MONICA FAULT	391	Holocene; Late Quaternary
SANTA ROSA ISLAND FAULT	333	Late Quaternary; Quaternary
SANTA ROSA VALLEY FAULT (SIMI-SANTA ROSA FAULT ZONE)	537	Holocene
SANTA SUSANA FAULT	344	Late Quaternary; Historic (1971 rupture accompanying San Fernando earthquake)
SANTA YNEZ FAULT	320	Late Quaternary; Holocene near Lake Cachuma
SANTA YNEZ FAULT, SOUTH BRANCH	321	Late Quaternary
SANTA YNEZ RIVER FAULT	299	Late Quaternary?

FAULT	REF. No.	AGE
SARGENT FAULT	222	Holocene; Historic (creep)
SEAL BEACH FAULT (NEWPORT-INGLEWOOD FAULT ZONE)	441	Holocene
SEAL COVE FAULT (SAN GREGORIO FAULT ZONE)	181	Holocene; Late Quaternary; creep?; Quaternary
SERRA FAULT ZONE	179	Late Quaternary
SHANNON FAULT	216	Quaternary
SHEPARD MESA FAULT	328	Late Quaternary
SHERBURNE HILLS FAULT	164	Quaternary
SIERRA MADRE FAULT ZONE	357	Holocene; Late Quaternary (Holocene -western part between Big Tujunga and Dunsmore canyons; late Quaternary -eastern part)
SIERRA NEVADA FAULT (INYOKERN AREA)	266	Holocene; Late Quaternary
SIERRA NEVADA FAULT ZONE (HAIWEE RESERVOIR AREA)	249	Holocene; Late Quaternary
SILVER CREEK FAULT	198	Quaternary
SILVER LAKE FAULT (PARKER LAKE FAULT)	201	Holocene; Late Quaternary; Quaternary
SILVER REEF FAULT	414	Holocene
SILVER STRAND FAULT (OFFSHORE)	493A	Late Quaternary
SIMI-SANTA ROSA FAULT ZONE	346	Holocene
SKY HI RANCH FAULT (NORTH FRONTAL THRUST SYSTEM)	408	Holocene
SLINKARD VALLEY FAULT	131	Late Quaternary
SMOKETREE WASH FAULT	501	Late Quaternary
SODA CREEK FAULT	153	Late Quaternary
SOUTH BRANCH FAULT (NEWPORT-INGLEWOOD FAULT ZONE)	439	Late Quaternary
SOUTH BRISTOL MTNS. FAULT	378A	Quaternary
SOUTH CUYAMA FAULT	291	Quaternary
SOUTH LOCKHART FAULT	365	Holocene
SOUTHERN DEATH VALLEY FAULT ZONE (SOUTHERN SECTION DEATH VALLEY FAULT SYSTEM)	248	Holocene; Late Quaternary
SOUTHERN INYO MOUNTAINS FAULT	540	Quaternary
SOUTHWEST FRACTURE ZONE (SAN ANDREAS FAULT ZONE)	254	Historic (1966 and 2004 earthquake rupture)
SPANISH BIGHT FAULT (OFFSHORE)	490A	Late Quaternary
SPENCEVILLE FAULT	105	Late Quaternary; Holocene?
SPRINGVILLE FAULT	348	Holocene; Late Quaternary
SQUAW PEAK FAULT	383	Pre-Quaternary
STEPHENS PASS FAULT	22	Historic (1978 earthquake rupture)
STONY CREEK FAULT	93	Late Quaternary in part
SUPERSTITION HILLS FAULT (SAN JACINTO FAULT ZONE)	504	Historic (1987, 1979, 1968, 1951 earthquake ruptures; 1992 triggered creep); Late Quaternary
SUPERSTITION MOUNTAIN FAULT ZONE (SAN JACINTO FAULT ZONE)	505	Late Quaternary; Quaternary; Holocene in part
SUR FAULT	237	Quaternary
SUR-NACIMIENTO FAULT OF VEDDER, HOWELL, AND MCLEAN	292	Pre-Quaternary

FAULT	REF. No.	AGE
SURPRISE VALLEY FAULT	7	Holocene; Late Quaternary
SURPUR CREEK FAULT	18	Quaternary
SWAIN RAVINE FAULT (FOOTHILLS FAULT SYSTEM)	96	Late Quaternary
SWEETWATER FAULT	493	Quaternary
SYCAMORE CANYON FAULT	351	Quaternary
SYLVAN THRUST FAULT	524	Holocene, Quaternary
TABLE BLUFF FAULT	47A	Late Quaternary
TAHOE-SIERRA FRONTAL FAULT ZONE	518	Quaternary
TAHOE VALLEY FAULT ZONE	497	Quaternary
TANK CANYON FAULT	268	Holocene
THING VALLEY FAULT	494	Pre-Tertiary; Quaternary
THIRTY MILE BANK FAULT (OFFSHORE)	484A	Quaternary; Pre-Quaternary
TIN MINE FAULT (ELSINORE FAULT ZONE)	446	Late Quaternary; Holocene
TIN MOUNTAIN FAULT	527	Late Quaternary
TOLAY FAULT	150	Quaternary?
TOWNE PASS FAULT	245	Holocene; Quaternary
TRINIDAD FAULT	38	Holocene
TRINIDAD FAULT (OFFSHORE)	35	Late Quaternary
TULARCITOS FAULT	236	Quaternary; Late Quaternary (in part)
TUNNEL RIDGE FAULT	410	Late Quaternary?
TWO ROCK FAULT	114A	Pre-Quaternary
UNNAMED FAULTS WEST OF DRY MOUNTAIN	528	Late Quaternary
UNNAMED FAULTS IN EUREKA VALLEY	532	Quaternary; Historic (1993 earthquake rupture)
VACA FAULT	156	Late Quaternary?
VENTURA FAULT (PITAS POINT VENTURA FAULT)	336	Holocene; Quaternary
VERDUGO FAULT	387	Holocene; Late Quaternary
VERGELES FAULT	228	Late Quaternary;
VERNALIS FAULT	167	Quaternary?
VERONA FAULT	183	Holocene?
WARM SPRINGS VALLEY FAULT AND UNNAMED FAULTS	61	Holocene
WATERMAN CANYON FAULT	411	Late Quaternary
WATERS PEAK FAULT (FOOTHILLS FAULT SYSEM)	360	Quaternary
WEST CALICO FAULT	417	Holocene
WEST HUASNA FAULT	289	Late Quaternary
WEST NAPA FAULT ZONE	152	Holocene in southern part; Late Quaternary in northern part
WEST NAPA FAULT ZONE (NORTHERN SECTION)	521	Quaternary
WEST TAHOE-DOLLAR POINT FAULT ZONE	516	Holocene; Late Quaternary; Quaternary
WEST VALLEY FAULT	139	Pre-Quaternary
WEST WALKER RIVER FAULT	132	Holocene; Late Quaternary

FAULT	REF. No.	AGE
WHALE GULCH FAULT	88	Late Quaternary
WHEELER RIDGE FAULT	275	Holocene; Late Quaternary
WHITE CANYON FAULT	260	Holocene
WHITE MOUNTAINS FAULT ZONE (NORTHERN PART)	204	Holocene; 1986
WHITE MOUNTAINS FAULT ZONE (SOUTHERN PART)	209	Holocene; Late Quaternary
WHITE MOUNTAINS FAULT ZONE (HAMMIL SECTION)	525	Quaternary
WHITE WOLF FAULT	275A	Historic (1952)
WHITTIER FAULT (ELSINORE FAULT ZONE)	444	Late Quaternary; Holocene
WIENERT FAULT	506	Holocene; Historic (1987 earthquake rupture)
WILDOMAR FAULT (ELSINORE FAULT ZONE)	460	Holocene
ZAMORA (DUNNIGAN HILLS) FAULT	124	Late Quaternary; Holocene?

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