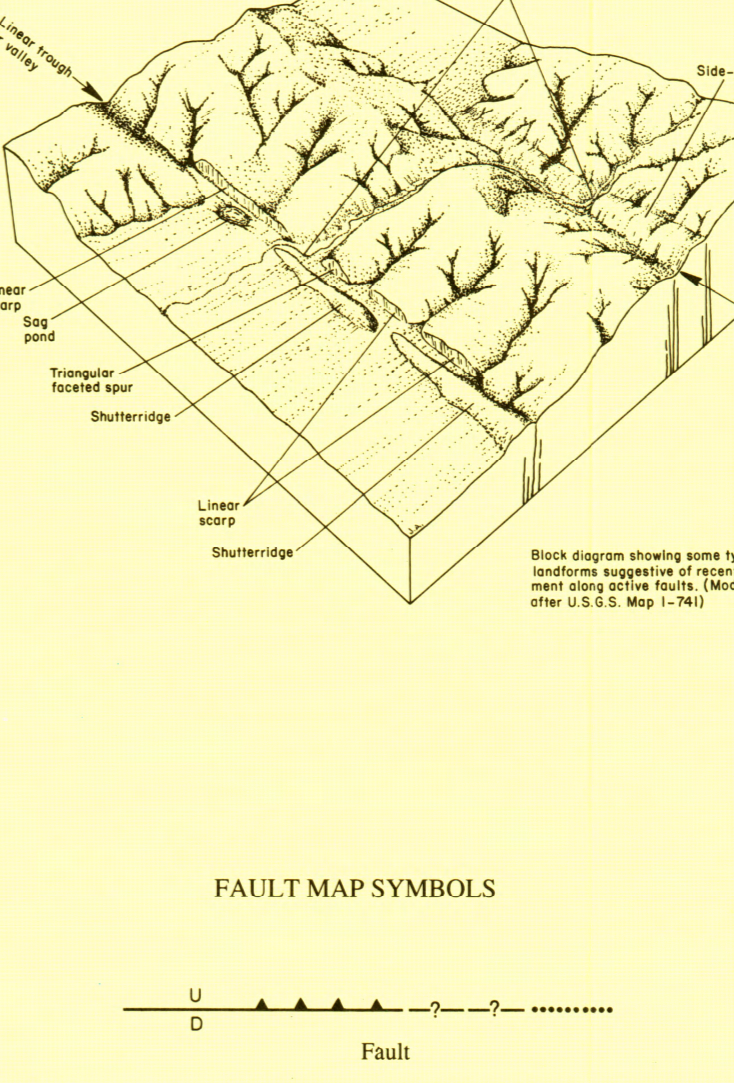


Geologic Time Scale	Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION
Quaternary	Holocene	[Symbol]	[Symbol]	Displacement during historic time (e.g. Cleveland Hill fault 1975).
				Displacement during Holocene time. <sup>1</sup>
	Late Quaternary	10,000	[Symbol]	Faults showing evidence of displacement during late Quaternary time. <sup>2,3</sup>
Early Quaternary	700,000	[Symbol]	[Symbol]	Quaternary (undifferentiated) faults - most faults in this category show evidence of displacement during the last 2,000,000 years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age. <sup>4</sup>
				2,000,000
Pre-Quaternary	5,000,000	[Symbol]	[Symbol]	Faults showing evidence of no displacement during Quaternary time or faults without recognized Quaternary displacement.

FOOTNOTES

- <sup>1</sup>Geomorphic evidence for Holocene faulting includes: sag ponds, or the following features in Holocene deposits: offset stream courses, linear scarps, and triangular faceted spurs.
- <sup>2</sup>Geomorphic evidence for late Quaternary faulting includes such features as offset stream courses, linear scarps, shutterings, and triangular faceted spurs.
- <sup>3</sup>Faulting may be younger, but lack of younger overlying deposits precludes more accurate age classification.

FAULT MAP SYMBOLS



Other Fault References

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**REGENCY OF FAULTING**

This map and accompanying table depicts the recency of fault activity within the Chico 1'X2' quadrangle. It represents a synthesis of data from a large body of literature, published and unpublished, regarding faulting in the east-central Sacramento Valley, northern Sierra foothills and northern Sierra Nevada of California. The faults shown are identical to those on the accompanying Geologic Map of the Chico Quadrangle. The purpose of this compilation is to depict what is currently known about the recency of displacement along these structures. Future studies in this region may discover additional faults, require more accurate location of faults as they are presently mapped, or, in some cases, change the age designations as shown here.

Age designations are assigned by examining the geologic evidence along faults or fault segments to determine the youngest faulted unit, the oldest unfaulted unit or the relative age of geomorphic features produced from fault rupture. If Quaternary displacement is indicated, the fault is classified into one of three categories (Holocene, late Quaternary, or Quaternary undifferentiated). Faults with reported surface rupture within the last 200 years are further classified as historically active. Faults showing no evidence of displacement in Quaternary time are classified as pre-Quaternary. Faults with insufficient evidence for classification, or those that may not have been fully displaced for recency of displacement, are grouped with the pre-Quaternary faults.

The reliability of the age designations on this map are dependent upon several factors. First, some of the data used to classify faults on this map were based on studies not directed toward determining the recency of fault movement. Second, important fault-related, geomorphic features may have been destroyed by natural or human activities. Third, geologists may differ in their interpretations of the geologic evidence for recency of faulting. Fourth, the ages of the lithologic units used to classify the faults may not be accurately known.

The age designations on this fault map are based largely on information in the geologic literature (see compilation references below). The numbers shown on the map refer to the accompanying table and are used primarily to indicate the appropriate reference or references used for classification of that locality. Faults numbered but uncolored were not specifically classified but were considered to be worthy of note.

This is a small scale (1:250,000) regional map, and should be used only as a first approximation of the potential fault hazards of an area. A detailed geologic investigation should be the core of any site-specific study for planning or development purposes.

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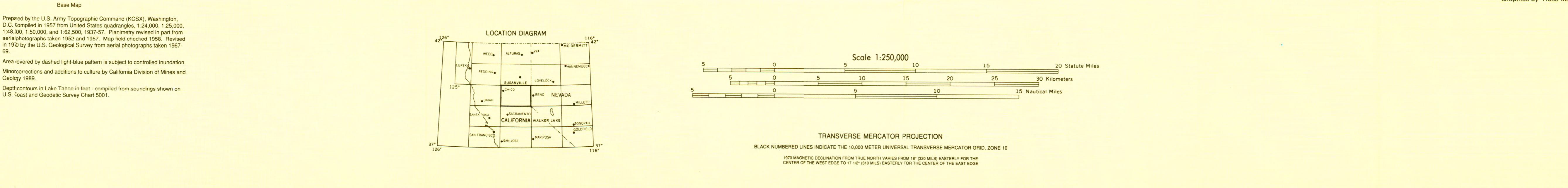
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FAULT CLASSIFICATION TABLE

NO.	FAULT NAME	AGE	COMMENT	REFERENCE	NO.	FAULT NAME	AGE	COMMENT	REFERENCE
1	Unnamed faults at Sutter Buttes	Quaternary (undifferentiated)	Classification based on apparent offset of Plio-Pleistocene volcanic rocks.	See compilation source on Sheet 3.	12	Unnamed faults north of Lake Tahoe	Late Quaternary	Faults displace volcanic rocks or offset sediments determined to be less than 700,000 years old.	Latham, 1985
2	Cleveland Hill fault	Holocene	Ground rupture associated with 1975 Oroville earthquake.	Akers and McQuinn, 1975; Hart, 1976; Harwood, 1975	13	Unnamed faults in Mokawa Valley	Late Quaternary; Holocene	Classification based on photo interpretation.	Wills, 1990; Smith, 1977
3	Swain Ravine fault zone (Orange Road area)	Late Quaternary (active within last 100,000 years)	Palto-B horizon truncated by east-dipping normal fault.	Schwartz and others, 1977, p. 54-57; Bryant, 1983a	14	Tamson-Mountains fault zone	Quaternary (undifferentiated)	Classification based on geomorphic evidence - "youngish scarp".	Morgan, 1977, p. 36-38; dePolo, 1988
4	Spenceville fault zone (Spenceville exploration site)	Late Quaternary (active between 100,000-130,000 y.b.p.)	Continuity of a palto-B horizon is disrupted by west-dipping fault zone.	Schwartz, and others, 1977, p. 57-61; Bryant, 1983a	15	Unnamed fault (west side of Upper Long Valley north of Beckweth fault)	Quaternary (undifferentiated)	Fault displaces Pleistocene lake deposits.	Fraser and Naurian, 1981
5	Highway 89 fault zone (Smith Property)	Late Quaternary (active within last 130,000 years)	Palto-B horizon apparently offset by west-dipping reverse fault.	Alt, and others, 1977, Appendix B; Borchert, and others, 1980; Bryant, 1983a; Harwood, 1975; Hart and Regg, 1977, p. 61	16	Chico monocline fault	Quaternary (undifferentiated)	Major tectonic boundary with late Cenozoic displacement responsible for formation of the Chico monocline. North of the map area, faulters related to tectonic forces associated with Plio-Pleistocene flexure. Also, two 5.0 Mw Oroville earthquakes, may have occurred on this fault.	Harwood and Helley, 1987, p. 19-23
6	Rich Bar fault at Meadow Valley (Bottle Springs fault)	Quaternary (undifferentiated)	Fault displaces Quaternary (?) lake deposits.	Alt, and others, 1977, p. 47-49	17	Tamson	(see comment)	Zone of isolated ground failures associated with the 1966, Truckee earthquake.	Kachadoorian, and others, 1967; Hawkins, and others, 1986, p. 65
7	Melrose fault zone (Meadow Valley fault)	Quaternary (undifferentiated)	Zone of faulting displaces Quaternary (?) lake deposits.	Alt, and others, 1977, p. 42-43	18	Dog Valley fault	(see comment)	Zone of northeast-trending lineaments considered tectonically active.	Hawkins, and others, 1986, p. 65-79
8	Giant Gap fault (east of Lake Tahoe)	Quaternary (undifferentiated)	Zone of faulting displaces Miocene deposits and overlying Pleistocene (?) colluvium.	Alt, and others, 1977, p. 59-61	19	Unnamed faults in Mokawa Valley area	(see comment)	Historic ground rupture associated with the 1975 Oroville earthquake and its associated ground rupture raised questions concerning the potential for activity along this system of faults. Subsequent studies indicate late Cenozoic faulting has been distinctive within the Foothills system along short, discontinuous fault strands.	Smith, 1983; Hawkins, and others, 1986, p. 65-63; Alt, and others, 1977; Schwartz, and others, 1977; Bryant, 1983a
9	Mokawa Valley fault (east-southwestern branch)	Late Quaternary	Geomorphic evidence suggestive of late Quaternary displacement.	Hawkins, and others, 1986, p. 60-63; Page, 1990	20	Foothills fault system	(see comment)	The 1975 Oroville earthquake and its associated ground rupture raised questions concerning the potential for activity along this system of faults. Subsequent studies indicate late Cenozoic faulting has been distinctive within the Foothills system along short, discontinuous fault strands.	Alt, and others, 1977; Schwartz, and others, 1977; Bryant, 1983a; Hart, and others, 1984; Harwood and Helley, 1987
10	North Tahoe fault	Holocene	Holocene lake deposits displaced by faulting.	Hyne, and others, 1972, p. 1440; Hawkins, and others, 1986, p. 56					
11	Unnamed faults north of Lake Tahoe	Quaternary (undifferentiated)	Classification based on apparent offset of Quaternary volcanic rocks.	See compilation source on Sheet 3.					



MAP SHOWING REGENCY OF FAULTING, CHICO QUADRANGLE, CALIFORNIA, 1:250,000  
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