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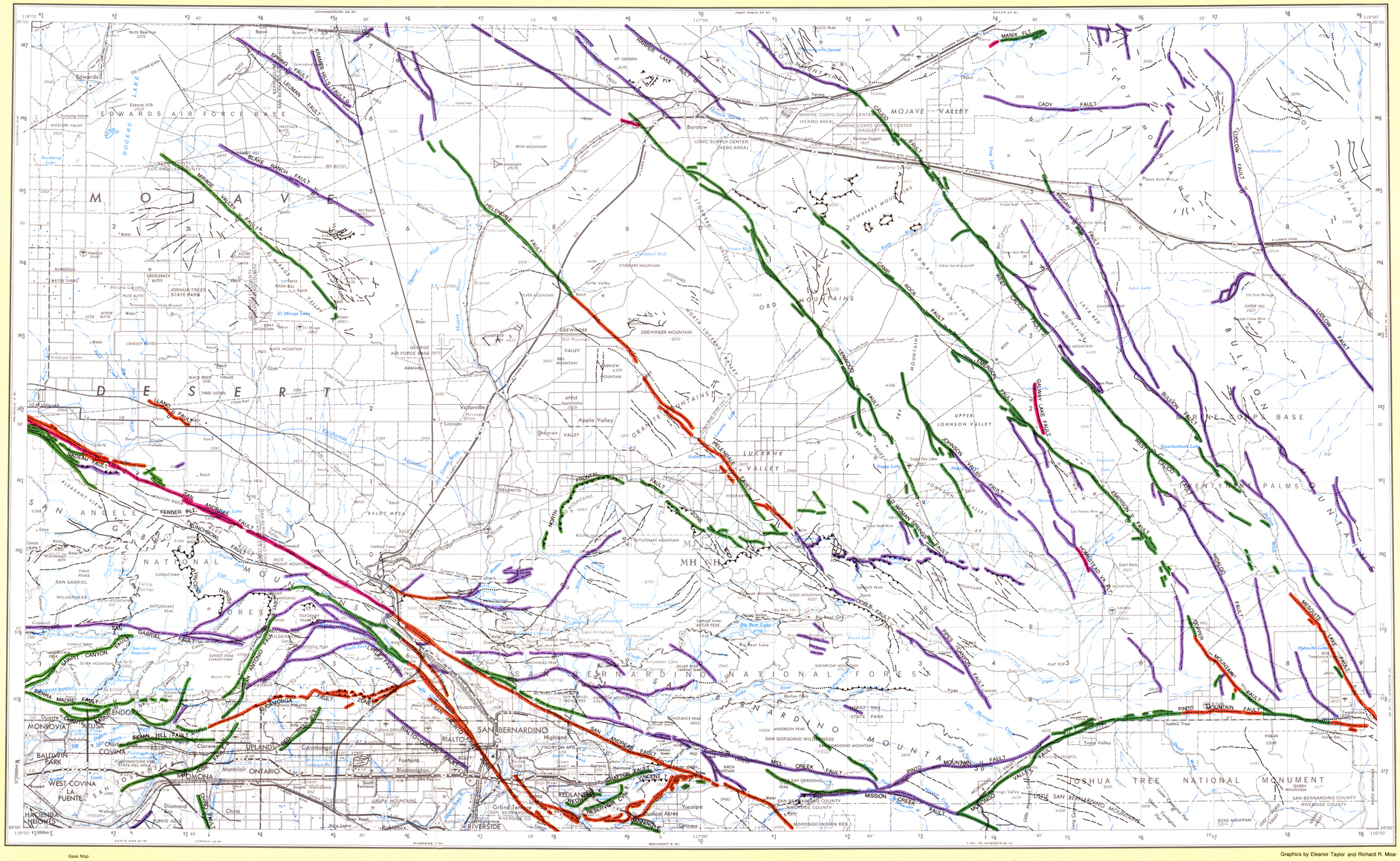
REGIONAL GEOLOGIC MAP SERIES
SAN BERNARDINO QUADRANGLE---MAP NO. 3A (GEOLOGY)
SHEET 5 OF 5



Geologic Time Scale		Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION
Quaternary	Late Quaternary, Holocene, Historic	200			Displacement during historic time (e.g. San Andreas fault 1857). Includes areas of known fault creep.
	Late Quaternary, Holocene	10,000			Displacement during Holocene.[1]
	Late Quaternary, Pleistocene	700,000			Faults showing evidence of displacement during late Quaternary time.[2,3]
	Early Quaternary, Pleistocene	2,000,000			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.
Pre-Quaternary	Pliocene, Miocene	5,000,000			Faults showing evidence of no displacement during Quaternary time or faults without recognized Quaternary displacement.

FOOTNOTES

[1] Geomorphic evidence for Holocene faulting includes: sag ponds, or the following features in Holocene deposits: offset stream courses, linear scarps, and triangular faceted spurs.

[2] Geomorphic evidence for late Quaternary faulting includes such features as offset stream courses, linear scarp, shutterridges, and triangular faceted spurs.

[3] Faulting may be younger but lack of younger overlying deposits precludes more accurate age classification.

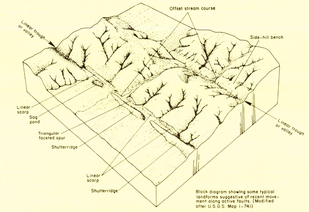
RECENCY OF FAULTING

This map is a synthesis of data from a large body of literature, published and unpublished, regarding faulting in the eastern Transverse Ranges and a part of the Mojave Desert, California. The faults shown are identical to those on the accompanying Geologic Map of the San Bernardino Quadrangle; however, the purpose of the fault map is to depict what is known about the recency of displacement along these structures. Future studies may find additional faults, require relocation of faults, or, in some cases, change the age classification as shown here.

The age classifications are determined by examining geologic evidence indicating the youngest faulted unit and the oldest unfaulted unit along each fault or fault segment. If Quaternary displacement is indicated, the fault is classified into one of the three categories within Quaternary time (Holocene, late Quaternary, Quaternary undifferentiated). Faults with reported surface rupture during historic time are so designated. Faults having evidence indicating no displacement in Quaternary time are classified as pre-Quaternary. If the fault has insufficient evidence to allow classification, it is also grouped with the pre-Quaternary faults.

The reliability of the age designations on this map may be limited by several factors. First, much of the data used to classify faults on this map were not based on studies specifically directed to the determination of recency of fault displacement. Second, important fault-related, geomorphic features may have been destroyed by natural or human activities. Third, fault-related geomorphic features tend to be preserved longer in dry climates than similar features in wet ones. Fourth, geologists may differ in their interpretations after examining incomplete geologic evidence for recency of faulting. Fifth, the ages of the rock units used to classify the faults may not be known accurately.

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



FAULT MAP SYMBOLS

Fault

Solid where well located; dashed where approximately located or inferred; queried where continuation or existence uncertain; dotted where concealed by younger rocks. Barbs indicate thrust fault (barbs on upper plate). Arrows indicate relative or apparent direction of movement. U, upthrown side and D, downthrown side (relative or apparent).

VTF

Vincent Thrust fault. An inactive, early Cenozoic, thrust fault marking the boundary between Pelona Schist below and Precambrian to Mesozoic mylonitic rocks above (barbs on upper plate).

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Base Map

Prepared by the U.S. Army Topographic Command (KCLD), Washington, D.C. Compiled in 1957 by photogrammetric methods and from United States quadrangles, 1:20,000, 1:24,000, 1:25,000, 1:48,000, 1:50,000, 1:62,500, and 1:125,000, 1952-55. Map field checked 1958. Revised in 1969 by the U.S. Geological Survey from aerial photographs taken 1968.

Area covered by dashed light-blue pattern is subject to controlled inundation.

Certain land grant names and boundaries are omitted to avoid congestion.

Minor corrections and additions to culture by California Division of Mines and Geology 1983.

Scale 1:250,000

5 0 5 10 15 20 Statute Miles
5 0 5 10 15 20 25 30 Kilometers
5 0 5 10 15 Nautical Miles

TRANSVERSE MERCATOR PROJECTION

BLACK NUMBERED LINES INDICATE THE 10,000 METER UNIVERSAL TRANSVERSE MERCATOR GRID, ZONE 11

1965 MAGNETIC DECLINATION FROM TRUE NORTH VARIES FROM 15¾° (280 MILS) EASTERLY FOR THE CENTER OF THE WEST EDGE TO 16° (270 MILS) EASTERLY FOR THE CENTER OF THE EAST EDGE

LOCATION DIAGRAM

Graphics by Eleanor Taylor and Richard R. Moar

MAP SHOWING RECENCY OF FAULTING, SAN BERNARDINO QUADRANGLE, CALIFORNIA, 1:250,000

Compilation by Edward J. Bortugno

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