

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

CHITTENDEN QUADRANGLE
CALIFORNIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
NE 1/4 SAN JUAN BAUTISTA 15' QUADRANGLE

UNITS WEST
OF SAN ANDREAS
FAULT

- Qal**
Alluvium
- UNCONFORMITY
- Qa**
Aromas Sand
Eolian sand
- QTP**
Paso Robles Formation
Nonmarine nodular clay, sand
and pebble gravel; includes
at the base fragments and
boulders of Franciscan and
granitic detritus and a small
mass (labeled f) of
Franciscan chert and
greenstone, near Canyon Road
- UNCONFORMITY
- qg**
Hornblende quartz-gabbro

UNITS NORTHEAST
OF SAN ANDREAS
FAULT

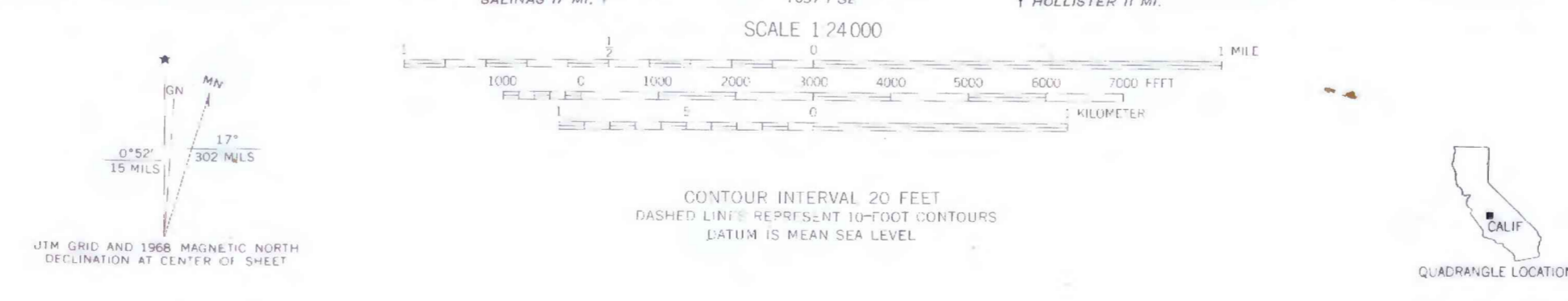
- Qg**
Surficial deposits
Qg, sand and gravel of major
streams
- Qal**
alluvium
- Qls**
landslide debris
- Qc**
clay and silt
- Qoa**
Older alluvium
- UNCONFORMITY
- Tuc** **Tus**
Nonmarine sedimentary deposits
Tuc, greenish claystone, sand-
stone and pebble conglom-
erate
- Tus**
sandstone
- Te**
Etchequin Formation
- Marine sandstone, siltstone
and minor pebble conglomerate
- Tcg**
Nonmarine pebble conglomerate
- UNCONFORMITY
- Tm**
Monterey Shale
Marine siliceous shale
- Tts**
Temblor Sandstone
Marine
- UNCONFORMITY
- Tmp**
Shale of Mount Pajaro area
(Monterey Shale of Allen, 1946)
Marine siliceous and semi-
siliceous shale
Saucesian and Zernerian Stages
- Tss**
Marine arkosic sandstone
- sp**
Serpentine
- fg fs fc fl**
Franciscan rocks
Pervasively sheared and
weakly metamorphosed marine
sedimentary and volcanic
rocks
fg, greenstone, metam. from
basalt
fs, graywacke sandstone
and micaceous shale
fc, varicolored chert
fl, limestone



- Contact
(dashed where gradational
or approximately located)
- Fault²
(dashed where inferred;
dotted where concealed;
double parallel arrows
indicate strike-slip
movement)
- anticline syncline
Axis of fold
horizontal
inclined
vertical overturned
Strike and dip of
bedding
- Down-slope movement of
landslides (indicated by
half-arrow)
- Abandoned test hole
drilled for oil or gas

- Notes
- Only a few of the major landslides are shown. For landslides in Santa Cruz County, see map by Cooper Clark and Associates (1975). For landslides in the Loma Prieta area, see thesis by Oberste-Lehn (1976).
 - See Sarna and others (1975) and Hall and others (1974) for breaks along the San Andreas fault and implications for future fault movement and land use. The hazard, if any, associated with the other faults, has not been determined.
 - Geology compiled in part from Allen (1946) and Helley and Brabb (1971).
 - See Clark and Hietman (1973) for Bouguer gravity field and an interpretation of the stratigraphy, tectonics and paleogeography.
 - Franciscan rocks (chert, Jasper, glauconite-bearing schist and gneiss) interpreted by Madock and Hudson (1968) as a landslide derived from an area east of the San Andreas fault.

- References cited
- Allen, J. A., 1946, Geology of the San Juan Bautista quadrangle, California: Calif. Div. Mines Bull. 133, scale 1:62,500.
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- Cooper, Clark and Associates, 1975, Preliminary map of landslide deposits in Santa Cruz County, California: U.S. Geol. Survey Misc. Element, Santa Cruz County Planning Dept., Santa Cruz, California.
- Helley, E. J., and Brabb, E. E., 1971, Geologic map of Late Cenozoic deposits, Santa Clara County, California: U.S. Geol. Survey Misc. Field Studies Map MF-335, scale 1:62,500.
- Madock, N. E., and Hudson, T. L., 1968, Implications of Franciscan rocks near Pajaro Gap regarding movement along the San Andreas fault: Proc. Stanford Univ. Pubs. Geol. Sci., v. 11, p. 121-122.
- Oberste-Lehn, D., 1976, Slope stability of the Loma Prieta area, San Benito County, California: Unpubl. Stanford Univ., Ph.D. thesis, 216 p., map scale 1:12,000.
- Sarna-Mojkic, A. M., Pappayan, E. H., and Hall, N. T., 1975, Map showing recently active breaks along the San Andreas fault between the northern Gabilan Range, California: U.S. Geol. Survey Misc. Field Investigations Map, MF-650, scale 1:24,000.



PRELIMINARY GEOLOGIC MAP OF THE CHITTENDEN QUADRANGLE, SANTA CLARA, SANTA CRUZ AND SAN BENITO COUNTIES, CALIFORNIA

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This report is preliminary and has not
been edited or reviewed for conformity
with Geological Survey Standards and
nomenclature.