

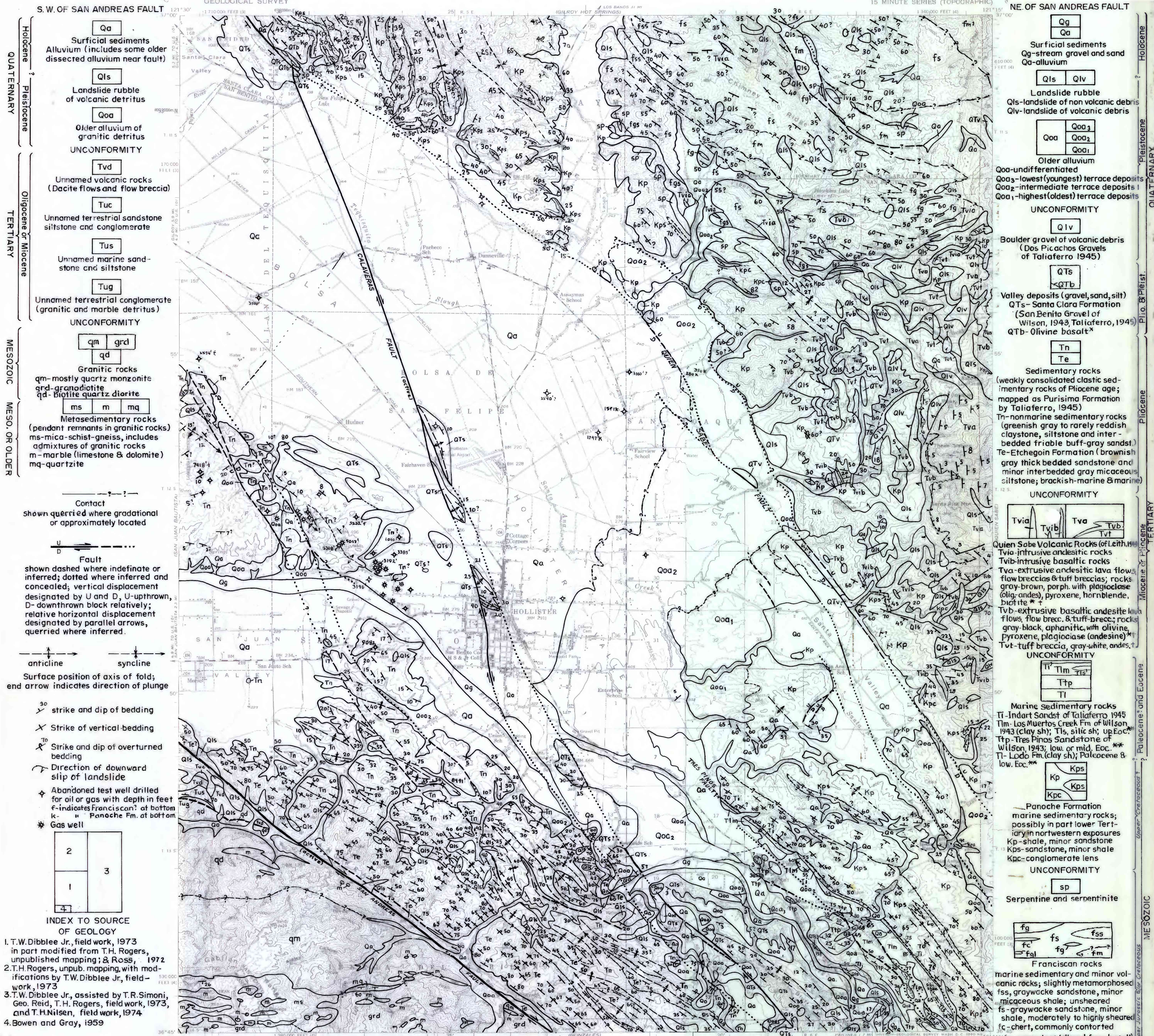
This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey standards and nomenclature.

U.S. GEOLOGICAL SURVEY
OPEN FILE MAP

75-394

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

HOLLISTER QUADRANGLE
CALIFORNIA
15 MINUTE SERIES (TOPOGRAPHIC)



QUATERNARY

Holocene

Qa
Surficial sediments
Alluvium (includes some older dissected alluvium near fault)

Qls
Landslide rubble of volcanic detritus

Qoa
Older alluvium of granitic detritus

UNCONFORMITY

Oligocene or Miocene

Tvd
Unnamed volcanic rocks (Dacite flows and flow breccia)

Tuc
Unnamed terrestrial sandstone siltstone and conglomerate

Tus
Unnamed marine sandstone and siltstone

Tug
Unnamed terrestrial conglomerate (granitic and marble detritus)

UNCONFORMITY

MESOZOIC

MESO. OR OLDER

qm **grd**
qd
Granitic rocks
qm - mostly quartz monzonite
grd - granodiorite
qd - biotite quartz diorite

ms **m** **mq**
Metasedimentary rocks (pendant remnants in granitic rocks)
ms - mica-schist-gneiss, includes admixtures of granitic rocks
m - marble (limestone & dolomite)
mq - quartzite

QUATERNARY

Holocene

Qg
Surficial sediments
Qg - stream gravel and sand
Qa - alluvium

Qls **Qlv**
Landslide rubble
Qls - landslide of non volcanic debris
Qlv - landslide of volcanic debris

Qoa **Qoa3**
Qoa2 **Qoa1**
Older alluvium
Qoa - undifferentiated
Qoa3 - lowest (youngest) terrace deposits
Qoa2 - intermediate terrace deposits
Qoa1 - highest (oldest) terrace deposits

UNCONFORMITY

Qlv
Boulder gravel of volcanic debris (Dos Picachos Gravels of Taliaferro 1945)

QTS
QTB
Valley deposits (gravel, sand, silt)
QTS - Santa Clara Formation (San Benito Gravel of Wilson, 1943; Taliaferro, 1945)
QTB - Olivine basalt*

Tn
Te
Sedimentary rocks (weakly consolidated clastic sedimentary rocks of Pliocene age; mapped as Purisima Formation by Taliaferro, 1945)
Tn - nonmarine sedimentary rocks (greenish gray to rarely reddish claystone, siltstone and interbedded friable buff-gray sandst.)
Te - Etchegoin Formation (brownish gray thick bedded sandstone and minor interbedded gray micaceous siltstone; brackish-marine & marine)

Contact
Shown queried where gradational or approximately located

Fault
shown dashed where indefinite or inferred; dotted where inferred and concealed; vertical displacement designated by U and D, U-upthrown, D-downthrown block relatively; relative horizontal displacement designated by parallel arrows, queried where inferred.

antiformal **synclinal**
Surface position of axis of fold; end arrow indicates direction of plunge

strike and dip of bedding
Strike of vertical bedding
Strike and dip of overturned bedding
Direction of downward slip of landslide
Abandoned test well drilled for oil or gas with depth in feet
f - indicates Franciscan? at bottom
k - Panache Fm. at bottom
* Gas well

UNCONFORMITY

Tva **Tvb** **Tvc**
Tvd
Quien Sabe Volcanic Rocks (of Leith, 1945)
Tva - intrusive andesitic rocks
Tvb - intrusive basaltic rocks
Tvc - extrusive andesitic lava flows, flow breccias & tuff breccias; rocks gray-brown, porph. with plagioclase (olig. andes), pyroxene, hornblende, biotite *
Tvd - extrusive basaltic andesite lava flows, flow brecc. & tuff-brecc. rocks gray-black, aphanitic, with olivine, pyroxene, plagioclase (andesine) *
Tvt - tuff breccia, gray-white, andes. t.

UNCONFORMITY

Tm **Tlm** **Tls**
Ttp
Tl
Marine sedimentary rocks
Tl - Indart Sandst. of Taliaferro 1945
Tlm - Los Muertos Creek Fm. of Wilson, 1943 (clay sh); Tls, siltic sh; up. Eoc.
Ttp - Tres Pinos Sandstone of Wilson, 1943; low or mid. Eoc. **
Tl - Lodo Fm. (clay sh); Paleocene & low. Eoc. ***

UNCONFORMITY

Kps
Kp
Kpc
Panache Formation
marine sedimentary rocks; possibly in part lower Tertiary in northwestern exposures
Kp - shale, minor sandstone
Kps - sandstone, minor shale
Kpc - conglomerate lens

UNCONFORMITY

sp
Serpentine and serpentinite

INDEX TO SOURCE OF GEOLOGY

1. T.W. Dibblee Jr., field work, 1973 in part modified from T.H. Rogers, unpublished mapping; & Ross, 1972

2. T.H. Rogers, unpub. mapping with modifications by T.W. Dibblee Jr., field-work, 1973

3. T.W. Dibblee Jr., assisted by T.R. Simoni, Geo. Reid, T.H. Rogers, field work, 1973, and T.H. Nilsen, field work, 1974

4. Bowen and Gray, 1959

References:

Wilson, I.F., 1943, Geology of the San Benito quadrangle, California: Calif. Journal Mines and Geol. v. 39, n.2, p. 183-270; Leith, C.J., 1949, Geol. of the Quien Sabe quadrangle, Calif.: California Div. Mines Bull. 147, p. 7-36; Taliaferro, N.L., 1945, Geologic map of the Hollister quadrangle, California: Calif. Div. Mines Bull. 143, pl. 1. (bulletin not published) Bowen, O.E., and C. Gray, 1959, Geology and economic possibilities of the limestone and dolomite deposits of the northern Gabilan Range, Calif.: Calif. Div. Mines Spec. Rpt. 56. W. Ilkness, E.R., 1963, Hollister field: Calif. Div. Oil & Gas, Summary of Operations, 49th ann. rpt., v. 49, n.1, p. 27-38. Ross, D.C., 1972, Gabilan Range, Calif.: USGS misc. field inv. Map MF 357 basement rocks, Gabilan Range, Calif.: USGS misc. field inv. Map MF 357 Kleinpell, R.M., Weaver, D.W., Doerner, D.P., 1967, Glimpses of Paleogene dep. record W. N.E. & E. of Gabilan Mts., in Marks, J.C., ed., guidebook, Gabilan Range, Pac. Sec., AGU. Prowell, D.C., 1974, Tert. volcs. & bearing on Calaveras & Hayward fault prob.; PhD thesis, U.C.S.C.

Mapped, edited, and published by the Geological Survey
Control by USGS, USC&GS, and U.S. Bureau of Reclamation
Compiled in 1959 from 1:24,000-scale maps of Three Sisters, San Felipe, Hollister, and Tres Pinos 7.5 minute quadrangles, surveyed 1954-1955
Topography by photogrammetric methods and by plane-table surveys
Aerial photographs taken 1952, 1953, and 1954
Polyconic projection, 1927 North American datum
1:24,000-foot grid based on California coordinate system, zones 3 and 4
1000-meter Universal Transverse Mercator grid ticks, zone 10, shown in blue
Red tint indicates area in which only landmark buildings are shown
Dashed land lines indicate approximate locations

Scale 1:62,500

Scale 1:24,000

ROAD CLASSIFICATION

Heavy-duty Light-duty
Medium-duty Unimproved dirt
Slate Road

COUNTOUR INTERVAL 80 FEET
DOTTED LINES REPRESENT SURFACE COUNTOURS
(DATA IS MEAN SEA LEVEL)

COMPILED BY THOS. W. DIBBLEE JR., 1975

QUADRANGLE LOCATION

HOLLISTER, CALIF.
N3645-W12115/15
1955

INDEX TO 7 1/2 MINUTE QUADRANGLE BASE MAPS SCALE-1:24,000

INDEX TO SOURCE OF GEOLOGY

San Felipe **Three Sisters**
Hollister **Tres Pinos**

Geology by T.W. Dibblee Jr. & T.H. Rogers

* Northwest of San Felipe Lake only
** See Prowell, 1974
*** See Kleinpell & others, 1967, for age
† K-A radiometric age of Quien Sabe Volcanic rocks, sample from top of Henrietta Pk., Quien Sabe quadr. Tva, 8.5 ± 0.5 m.y. old; sample from Lone Tree Road, Tut, 10.2 ± 0.2 m.y. (G.L. Curtis, in Prowell, 1974)

30 July 75 TWP