U.S. GEOLOGICAL SURVEY
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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

UNITED STATES
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

BRANCH MOUNTAIN QUADRANGLE
CALIFORNIA
15 MINUTE SERIES (TOPOGRAPHIC)

SOUTHWEST OF RINCONADA FAULT

Miocene	TERTIARY	Tml — Monterey Shale (lower part, marine siliceous shale, thin carbonate beds; middle Miocene)
Miocene	TERTIARY	Tus — Unnamed sandstone (marine m. Miocene)
Miocene	TERTIARY	Tr — Rincon Mudstone (marine)
Miocene	TERTIARY	Tv — Vaqueros Sandstone (marine)
Oligocene	TERTIARY	Tuc — Unnamed conglom. (red terrestrial)
		UNCONFORMITY
Upper	CRETACEOUS	Kss, Ksh, Ksg — Unnamed Formation (marine) Kss, sandstone, minor shale; Ksh, shale, minor sandstone; Ksg, conglom.
Lower	CRETACEOUS	Ks — Unnamed shale (Jollo Formation of Hall and Corbato, 1967)
		sp — Serpentine (intrusive)
Upper	JURASSIC	fs, fc, fb, f — Franciscan Rocks: fs, sandstone (graywacke); fc, chert; fb, basalt (partly altered to greenstone); f, graywacke and clay shale, severely sheared, includes fragments of graywacky, chert and glaucophane rock; age- U. Jurassic-Portlandian, (Easton and Imlay, 1955)

Contact
Dashed where gradational or approximately located

Fault
Dashed where doubtful
Dotted where concealed
U, Upthrown side
D, Downthrown side
Arrows indicate horizontal movement

Anticline — Syncline
Axis of fold, showing direction of plunge

Horizontal — Inclined
Vertical — Overturned
Strike and dip of strata

Strike and dip of foliation

Abandoned test hole drilled for oil or gas

Fossil locality (near Shell Peak and Permasse Ranch after Easton and Imlay, 1965)

NORTHEAST OF RINCONADA FAULT

Holocene	QUATERNARY	Qg, Qa — Surficial sediments: Qg, gravel and sand of stream channels; Qa, alluvium, sand and gravel
Holocene	QUATERNARY	Qls — Landslide rubble
Pleistocene	QUATERNARY	Qoa, Qfg — Older alluvium: Qoa, alluvial sand and gravel; Qfg, alluvial fan gravel
		UNCONFORMITY
Pliocene	TERTIARY	Tmo-u, Tmo-l — Morales Formation (terrestrial) Tmo-u, upper part-gravel and sand; Tmo-l, lower part, clay and gravel
		UNCONFORMITY
Miocene	TERTIARY	Tsm, Tsh — Santa Margarita Formation (marine, upper Miocene) Tsm, sandstone; Tsh, siliceous shale
		LOCAL UNCONFORMITY
Miocene	TERTIARY	Tmw, Tms — Monterey Shale (marine) Tmw, Whiterock Bluff Shale Member (silic. & calc. shale; Luisian Stage, m. Miocene) Tms, Saltos Shale Mem., (semi-silic. and clay sh.; Reliz. and Saucesian Stages)
		Tb — Basalt or diabase (sill?)
Oligocene	TERTIARY	Tvp — Vaqueros Formation (Painted Rock Sandstone Member, marine; middle, lower Miocene & Olig.?)
Oligocene	TERTIARY	Tsc — Simmler Formation (terrestrial red to gray conglom. sandstone and claystone)
		UNCONFORMITY
Paleocene and Eocene	TERTIARY	Tss, Tsg, Tsh — Unnamed sedimentary rocks (marine) * Tss, sandst., interbedded shale and minor conglom. Tsg, conglomerate Tsh, shale
		UNCONFORMITY
MESO. OR OLDER	MESOZOIC	(not exposed)
MESO. OR OLDER	MESOZOIC	gr — Granitic rock (quartz monzonite)
MESO. OR OLDER	MESOZOIC	gn, ml, mq — Metamorpic rocks: gn, gneiss and schist; ml, marble; mq, quartzite

INDEX TO SOURCE OF GEOLOGY

1. T.W. Dibblee Jr, unpub.
2. J.G. Vedder & R.C. Brown unpublished
3. T.W. Dibblee Jr, R.D. Brown and R.A. Hope, unpub.
4. D.C. Ross, unpub.
5. Easton and Imlay, 1955

(fieldwork in 1966)

* age after Vedder and Brown, 1968

Mapped, edited, and published by the Geological Survey
Control by USGS, USC&GS, and USCE
Topography by plane-table surveys 1919 and 1936–1937
Culture revision and field check 1952
Polyconic projection. 1927 North American datum
10,000-foot grid based on California coordinate system, zone 5
Dashed land lines indicate approximate locations
Certain land lines omitted because of insufficient data
1000-meter Universal Transverse Mercator grid ticks, zone 10, shown in blue

SCALE 1:62500
CONTOUR INTERVAL 50 FEET
DATUM IS MEAN SEA LEVEL

Drafted by K. Moore and G.J. Edmonston

COMPILED BY T.W. DIBBLEE JR., 1971

BRANCH MOUNTAIN, CALIF.
N3500—W12000/15
1952

FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER 25, COLORADO OR WASHINGTON 25, D.C.
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

GEOLOGIC MAP OF THE BRANCH MOUNTAIN QUADRANGLE, CALIFORNIA

References; Easton, W.H., and Imlay, R.W., 1955 Upper Jurassic fossil localities in Franciscan and Knoxville Formations in southern Calif: Bull. Amer. Assoc. Petrol. Geol. v.39, n.11, p.2336–2340
Hall, C.A. Jr., and Corbato, G.E., 1967, Stratig. and structure of Mesozoic and Cenozoic rocks, Nipomo quadrangle, Calif. Geol. Soc. Amer. Bull., v. 78, n. 5 p.559–584, Vedder, J.G., and Brown, R.D. Jr., 1968, Structure and stratig. relations along the Nacimiento Fault in the south. Santa Lucia and San Rafael Mtns., Calif. In W.R. Dickinson and A. Grantz, Proc. of Conf. on Geol. Problems of San Andreas Fault system: Stanford Univ. Pub. Geol. Sci. v.XI p.242–259

This map is preliminary and has not been edited or reviewed for conformity with U.S.G.S. standards