DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

OPEN-FILE REPORT 80- 400

BENICIA QUADRANGLE
CALIFORNIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
SW/4 CARQUINEZ STRAIT 15' QUADRANGLE

Contact
dashed where gradational or approximately located

Fault
dashed where inferred; dotted where concealed; queried where existence doubtful; double arrows indicate strike-slip movement; U – upthrown side D – downthrown side relatively

anticline
syncline

Axis of fold
arrow on axis indicates direction of plunge

inclined
inclined (approximate)
vertical
overturned

Strike and dip of strata

sandstone bed
artificial fill

Qbm | Qa | Qls
Surficial deposits
Qbm; bay mud
Qa; alluvium *
Qls; landslide debris
UNCONFORMITY
Qoa
Older alluvium
UNCONFORMITY
Holocene ? Pleistocene ? QUATERNARY

Tmsu / Tmss / Tmsl | Tmsh
Tmsu; massive graywacke sandstone, locally pebbly
Tmss; buff, massive, arkosic sandstone, locally fossiliferous
Tmsl; light gray, massive siltstone and claystone, includes a few thin sandstone beds
Tmsh; shale and mudstone, weathers white, somewhat siliceous or diatomaceous
Miocene

UNCONFORMITY

Tk | Tkm / Tkn
Kreyenhagen Formation
Tk; semi-siliceous to argillaceous shale
Tkm; Markley Sandstone Member, arkosic sandstone and micaceous shale
Tkn; Nortonville Shale Member, clay shale
Eocene

Tds
Domengine Sandstone
Buff, arkosic sandstone

Tmg
Meganos Formation
Claystone and siltstone; thin sandstone at base

Tmz
Martinez Formation
Claystone and siltstone, minor sandstone except in Valona area where it is mainly sandstone
Paleocene
TERTIARY

Kps / Kp
Panoche Formation
Kps; arkosic sandstone
Kp; micaceous shale, minor thin sandstone beds
Upper Cretaceous

sp | spc
Ultramafic rocks
sp; serpentine
spc; serpentine altered to silica-carbonate rock

fg
Franciscan assemblage
Basalt, altered to greenstone
JURASSIC AND CRETACEOUS
CRETACEOUS

* Only a few landslides have been mapped. For a more complete map of landslide deposits, see Frizzell, V.A. A., Jr., Sims, J.D., Nilsen, T.H., and Bartow , J.A.

References cited

Sims, J.D., Fox, K. F., Jr., Bartow, J.A., and Helley, E. J., 1973, Preliminary geologic map of Solano County and parts of Napa, Contra Costa Marin, and Yolo Counties, California: U. S. Geol. Survey and Housing and Urban Development Basic Data Contribution 54, Map M.F. 484, scale 1:62500

Smith, B.Y., 1957, Lower Tertiary Foraminifera from Contra Costa County, California: Univ. of California Publications in Geol. Sciences, v. 32, No.3

Weaver, C.E., 1953, Eocene and Paleocene deposits at Martinez, California: Univ. of Washington Publications in Geology, v. 7, p. 1-102.

Frizzell, V.A., Sims, J.D., Nilsen, T.H., and Bartow, J.A., 1974, Preliminary photointerpretation map of Landslide and other surficial deposits of the Mare Island and Carquinez Straight 15-minute quadrangles, Contra Costa, Marin, Napa, Solano, and Sonoma Counties, California: U.S. Geological Survey Miscellaneous Field Studies Map MF-594

Geology mapped and field checked by T. W. Dibblee, Jr., 1977, modified from C. Weaver, 1953, J. Sims and others, 1973, B. Smith, 1957, and H. Sonneman and J. Switzer, unpublished.

UTM GRID AND 1968 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24000
CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 5 FOOT CONTOURS
DATUM IS MEAN SEA LEVEL
DEPTH CURVES IN FEET—DATUM IS MEAN LOWER LOW WATER
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
THE MEAN RANGE OF TIDE IS APPROXIMATELY 4 FEET

QUADRANGLE LOCATION

BENICIA, CALIF.
SW/4 CARQUINEZ STRAIT 15 QUADRANGLE
N3800—W12207.5/7.5

1959
PHOTOREVISED 1968
AMS 1560 II SW—SERIES V895

PRELIMINARY GEOLOGIC MAP OF THE BENICIA QUADRANGLE, CONTRA COSTA AND SOLANO COUNTIES, CALIFORNIA

by

Thomas W. Dibblee, Jr.

1980

U.S. Geological Survey
OPEN-FILE REPORT
This report is preliminary and has not been edited or reviewed for conformity with Geological Survey Standards and nomenclature