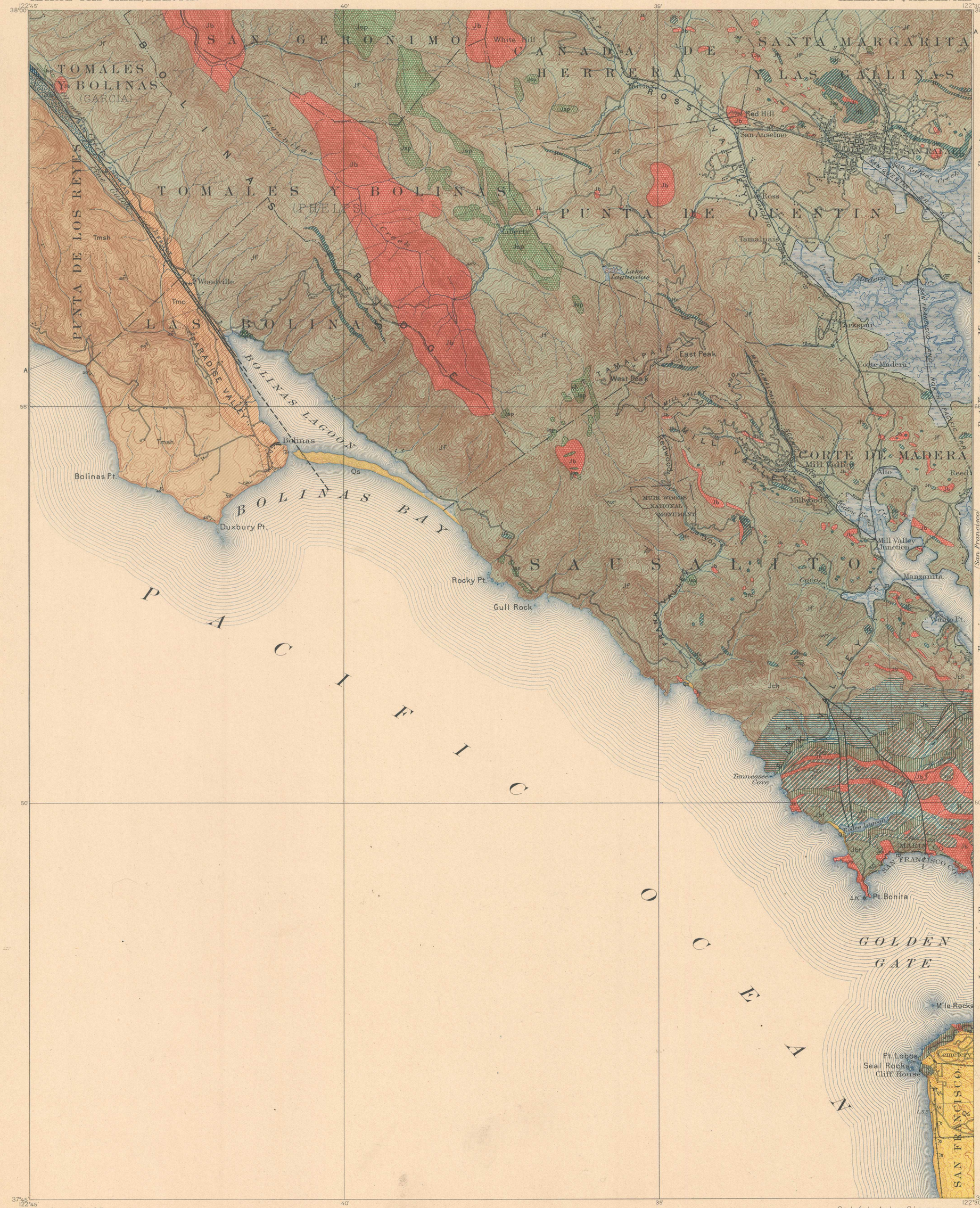
U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

AREAL GEOLOGY

CALIFORNIA
TAMALPAIS QUADRANGLE

(Napa 125000)



LEGEND

SEDIMENTARY ROCKS

(Areas of subaqueous deposits are shown by patterns of parallel lines, subaerial deposits by patterns of dots and circles)

Salt marsh deposits *(clay and silt)* — Qs

Sand dunes and beach sand — Recent — QUATERNARY

UNCONFORMITY

Merced formation *(chiefly marine sand; fault breccia represented by Tmb)* — Tmc — Pliocene

UNCONFORMITY

Undifferentiated bituminous shales of the Monterey group — Tmsh — Miocene — TERTIARY

UNCONFORMITY

Conglomerate, probably Knoxville formation — Post-Franciscan — CRETACEOUS ?

UNCONFORMITY

Bonita sandstone *(arkosic sandstone with subordinate amounts of shale and conglomerate)* — Jbt

Ingleside chert *(alternations of thin layers of varicolored radiolarian chert, chiefly red, and earthy shale)* — Ji

Marin sandstone *(arkosic sandstone with subordinate amounts of shale and conglomerate)* — Jm

Sausalito chert *(alternations of thin layers of varicolored radiolarian chert, chiefly red, and earthy shale)* — Js

Cahil sandstone *(arkosic sandstone with subordinate amounts of shale and conglomerate)* — Jch

Franciscan group (San Francisco)

Undifferentiated sandstones of Franciscan group with radiolarian chert lentils of undetermined horizons, Jfc, and Calera limestone member, Jca *(fault breccia represented by Jfb)* — Jf

JURASSIC ? (pre-Knoxville)

INTRUSIVE IGNEOUS ROCKS

(Areas of igneous rocks are shown by patterns of triangles and rhombs)

Serpentinized peridotite with associated gabbro and pyroxenite — Jsp

Basalt and diabase *(commonly show spheroidal or ellipsoidal structure)* — Jb

Intrusive into Franciscan group — JURASSIC ? (pre-Knoxville)

Faults

Concealed faults *(covered by younger deposits)*

20° Strike and dip of stratified rocks

Economic note: *Crushed stone can be obtained from sandstones and cherts of Franciscan group and intrusive basalt and diabase; limestone from Calera limestone member; sand from beach sand; brick clay from regolith from sandstones of Franciscan group; manganese occurs in chert of Franciscan group; small quantities of asbestos, chromite, talc, and magnesite in serpentinized peridotite; and water in Merced formation.*

Henry Gannett, Chief Topographer.
R.U. Goode, Geographer in charge.
Triangulation by U.S. Coast and Geodetic Survey.
Topography by R.B. Marshall and U.S. Coast and Geodetic Survey.
Surveyed in 1894–95.

APPROXIMATE MEAN DECLINATION 1913.

Scale 1/62500

1 ½ 0 1 2 3 4 Miles

1 ½ 0 1 2 3 4 5 Kilometers

Contour interval 25 feet.
Datum is mean sea level.
Edition of Sept. 1913.

Geology by Andrew C. Lawson, assisted at various times by students of the University of California.
Surveyed 1896 to 1910.