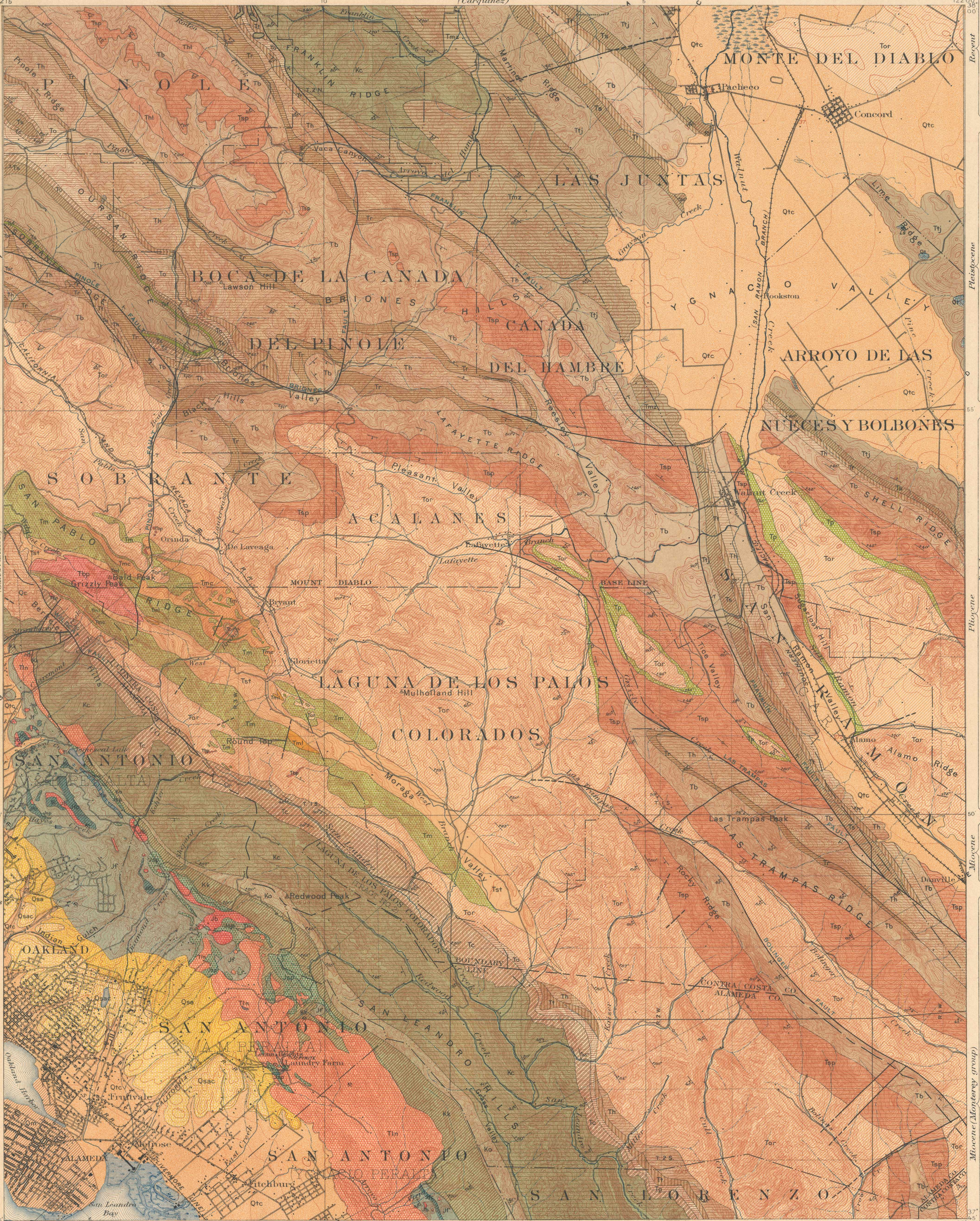


AREAL GEOLOGY

LEGEND

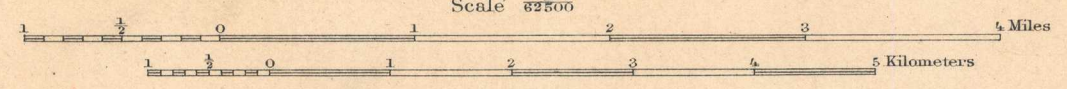
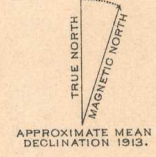
- SEDIMENTARY ROCKS (continued)**
- UNCONFORMITY**
- Tj**
 Tejon formation
(hard ferruginous and calcareous sandstones with beds of shale and lenses of conglomerate at base)
- UNCONFORMITY**
- Imz**
 Martinez formation
(sandstone in part glauconitic shale and some conglomerate)
- UNCONFORMITY**
- Kc**
 Chico formation with Oakland conglomerate member at base
(massive yellowish sandstone and clay shale with conglomerate member Kc at base)
- UNCONFORMITY**
- Kk**
 Knoxville shale
(carbonaceous and argillaceous)
- UNCONFORMITY**
- Jfm**
 Metamorphic schist
(sedimentary and igneous rocks altered by contact metamorphism chiefly to glaucophane schist)
- Jf**
 Undifferentiated sandstones of Franciscan group with radiolarian chert lentils of undetermined horizons, Jfc
- IGNEOUS ROCKS CHIEFLY INTRUSIVE**
(Areas of igneous rocks are shown by patterns of triangles and rhombs)
- Tln**
 Leona rhyolite
(lava flows of undetermined age)
- Jsp**
 Serpentinized peridotite with associated gabbro and pyroxenite
(Serpentinized in part altered to an aggregate of silica and various carbonates)
- Jb**
 Basalt and diabase
(commonly show spheroidal or ellipsoidal structures)
- Faults**
- Concealed faults**
(covered by younger deposits)
- † Indicates overthrust side of these faults
 ‡ Strike and dip of stratified rocks
 § Strike of vertical strata
- ⊕ Crushed-stone quarries
 ⊕ Limestone quarry
 ⊕ Mine
 ⊕ Gravel pit



LEGEND

- SEDIMENTARY ROCKS**
(Areas of subaqueous deposits are shown by patterns of parallel lines, subaerial deposits by patterns of dots and circles)
- Qsm**
 Salt marsh deposits
(clay and silt)
- Qtr**
 Travertine
(volcanic spring deposits)
- Qtc**
 Temescal formation
(alluvium)
- UNCONFORMITY**
- Qm**
 Merritt sand
(marine sand)
- UNCONFORMITY**
- Qsac**
 San Antonio formation with chert-gravel member, Qsac
(lower alluvial flow; the later part of the flow is Qsac contains angular chert fragments)
- Qa**
 Alameda formation
(yellow marine clay with some interstratified fluvial gravel)
- UNCONFORMITY**
- Qc**
 Campus formation
(fresh-water clay, lime-sand, conglomerate, buff, argillaceous and argillite and basalt flows)
- UNCONFORMITY**
- Tbp**
 Bald Peak basalt
(lava flows with lentils of fresh-water limestone; some dikes are included in mapping)
- Tst**
 Siesta formation
(fresh-water conglomerate, clay, sandstone, chert, limestone, lentils of gravel, etc.; and lenses and thick beds of conglomerate, Tmc, near base)
- UNCONFORMITY**
- Tm**
 Moraga formation
(andesite and basalt flows, with chert, argillite, etc.; and lenses and thick beds of conglomerate, Tmc, near base)
- Tml**
 Fresh-water limestone lentils at various horizons in the Moraga and Siesta formations
(only the larger bodies shown)
- Tor**
 Orinda formation
(fresh-water conglomerate, sandstone, clay, limestone, and thin layers of buff)
- Tp**
 Pinole tuff
(pyroclastic tuff probably autochthonous deposited in fresh water)
- UNCONFORMITY**
- Tsp**
 San Pablo formation
(coarse gray to blue sandstone with subaerially deposited siliceous material)
- UNCONFORMITY**
- Th**
 Briones sandstone with Hercules shale member, Th
(light colored coarse to finely quartzose sandstone with chert, limestone shale member, Th)
- Tr**
 Rodeo shale
(chiefly cherty bituminous shale, altered by iron, with some cherty beds)
- Th**
 Hambro sandstone
(medium to coarse, slightly ferruginous sandstone, with some sandy shale)
- Th**
 Tice shale
(white to pink bituminous shale, prevalently cherty)
- To**
 Oursan sandstone
(fine grained light-colored soft sandstone)
- Tc**
 Claremont shale
(white cherty bituminous shale and yellowish cherty argillite, interbedded with thin shales, thin hard sandstones and lentils of detrituous limestone)
- Ty**
 Sobrante sandstone
(light colored soft sandstone with shaly part; includes layers of blue marl; includes buff, Tst, near base)
- Legend is continued on the left margin.*

Henry Gannett, Chief Topographer.
 R.U. Goode, Geographer in charge.
 Triangulation by U.S. Coast and Geodetic Survey.
 Topography by W.D. Johnson and W.H. Oris.
 Surveyed in 1893-94.



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

Geology by Andrew C. Lawson and John C. Merriam, assisted at various times by students of the University of California. Surveyed in 1894, 1896, 1905, and 1911.