

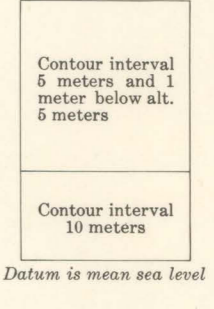
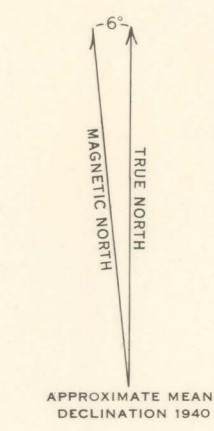


EXPLANATION

SEDIMENTARY AND VOLCANIC ROCKS

- Quaternary**
 - Qmg: Made-ground and fill. Only general distribution, as of 1911, shown. Made-ground shown as solid tone. Fill shown as superimposed striped pattern.
 - Qbr: Beachrock
 - Qit: Cemented beach sand
 - Qrt: Recent littoral deposits
 - Qal: Floodplain alluvium
 - Qbm: Bay mud
 - Ql: Pleistocene littoral deposits. Mostly calcareous, some reef limestone.
 - Qts: Saturated sand. Pure quartz sand and white clayey sand.
 - Qta: Older alluvium. Poorly stratified red to white clay, sandy clay, and sand. Shown as superimposed pattern where occurring as an obscuring mantle over older complex.
- Upper Pliocene**
 - Tay: Aymamón limestone. Medium- to thick-bedded, light-colored, dense limestone, some interbedded elastic and marly beds.
 - Ts: Aguada formation. Friable sandstone and sand, brown, green, and black clay and concretionary marly clay.
- Lower Pliocene**
 - Tf: Fajardo formation. Light-colored sandy siltstone, siliceous siltstone, and chert grading laterally into coarse grained pyroclastic, Tc, and clastic, Tc.
 - Tv: Figueras volcanics. Hornblende andesite breccia, minor fluorite; zone of limestone, Tc, limestone breccia and isolated limestone blocks at base.
- Upper Cretaceous**
 - Kta: Trujillo Alto limestone. Medium bedded to massive, dense, fossiliferous limestone, locally carbonaceous at base.
 - Km: Monacillo formation. Tuffaceous graywacke and concretionary, some shale and ash, locally crossbedded and red to purple in color.
 - Kf: Fralies formation. Massive lapilli tuff and some volcanic breccia; well-bedded shale, siltstone and fine graywacke; Leprosoceras (Leprosoceras) limestone member, Kt, at top and La Made limestone member, Km, near base.
 - Ks: Tortugas andesite. Andesite breccia; minor flows.
 - Kg: Guanabo formation. Well-bedded tuffaceous sandstone, some concretionary and thin shale beds.
 - Khp: Hato Puerto tuff. Massive sandstone and pyroclastic; minor amounts of stratified ash.
- Intrusive Igneous Rocks**
 - Td: Diabase
 - Tg: Grandiorite porphyry complex
 - Tsp: Augite andesite porphyry

- Contact: Long dash where approximate; short dash where inferred or gradual; dotted where concealed.
- Fault, showing dip: Long dash where approximate; short dash where inferred; dotted where concealed.
- Fault, showing bearing and plunge of slickensides: $\frac{N 60^{\circ} E}{10}$
- Strike and dip of beds: Degree of dip omitted where not known.
- Strike of vertical beds: $\frac{N 60^{\circ} E}{0}$
- Horizontal beds: $\frac{N 60^{\circ} E}{0}$
- General strike and dip of unstratified beds: $\frac{N 60^{\circ} E}{0}$
- Quarry: $\frac{N 60^{\circ} E}{0}$
- Locality at which fossils were collected: $\frac{N 60^{\circ} E}{0}$



GEOLOGIC MAP AND SECTION OF THE SAN JUAN AREA, PUERTO RICO

Scale 1:50,000 2 Miles

