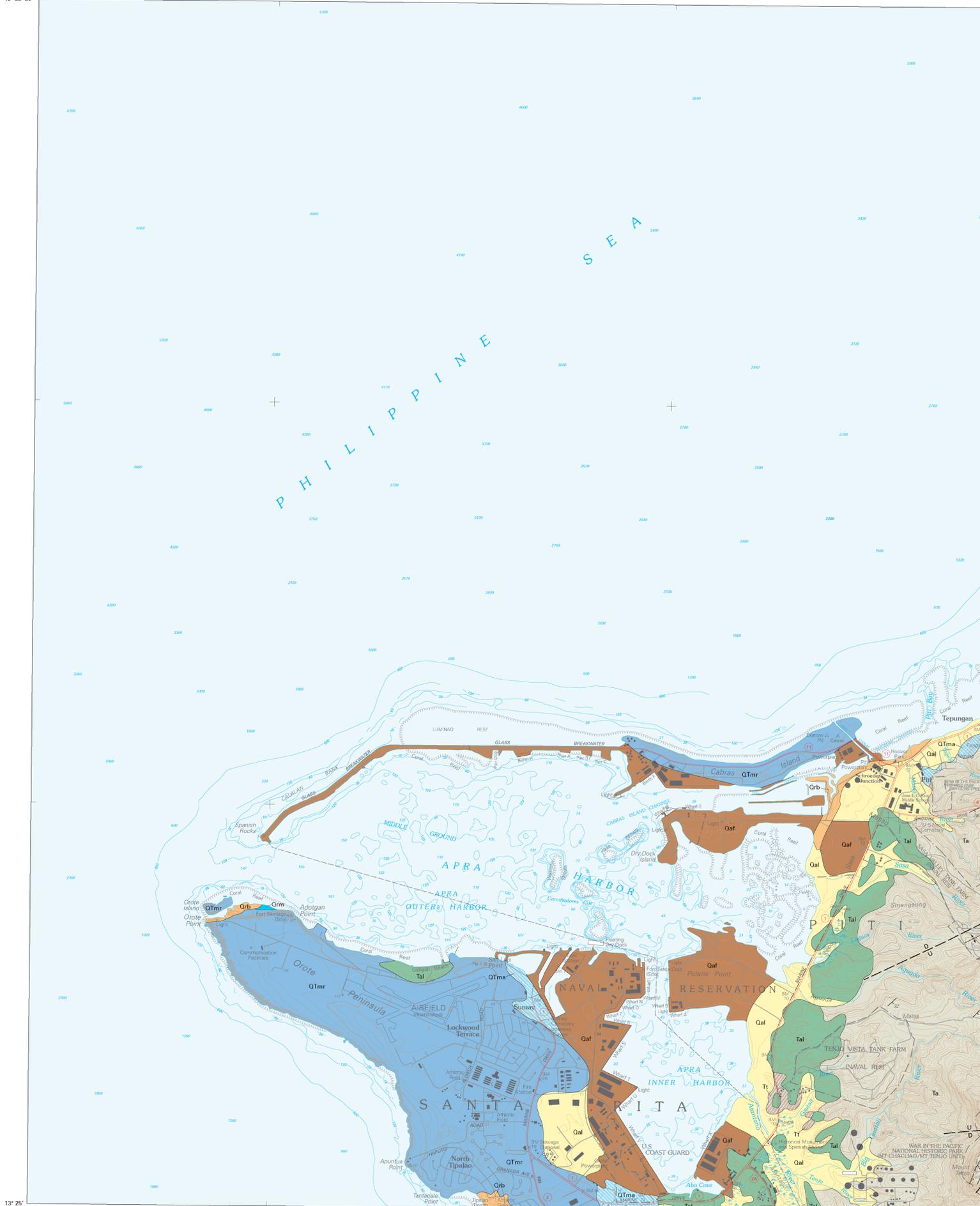


DESCRIPTION OF MAP UNITS

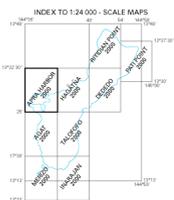
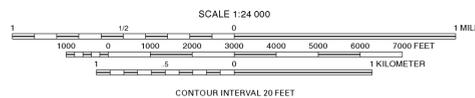
- Qaf** Artificial fill—shown only where extensive
 - Reefs**—reef platforms of living coral, coralline algae, and reef sediment, raised terraced ramps and pools, and algal encrusted intertidal bedrock outcrops, including basaltic outcrops along the southwest coast and limestone outcrops on the platform margin from Risdan Point south to Urano Point
 - Orb** Beach deposits (Quaternary)—beach sand and gravel, beach rock in the intertidal zone, and small isolated patches of recently emerged detrital limestone. Sand generally is less than 15 feet above sea level, seldom as much as 30 feet above
 - Orm** Merizo limestone (Quaternary)—emergent Holocene (2,500-4,800 years old) coralline reef limestones, 2-12 feet thick, capping modern reef flats and platforms. Occurs as intertidal and low-supratidal outcrops. Extensive supratidal outcrops at Tarague (algal-rich), Yig Point (coral-rich), and Aga Point (detrital-rich). Almost no meteoric diagenetic alteration evidenced in outcrops. Many outcrops, too small to map, occur along SW coast between Merizo and Aga Point
 - Qal** Allatum (Quaternary)—alluvial clay deposits, mostly 30-100 feet thick, muck and clay in marshy estuarine deposits on the west coast, scattered sand and gravel bars within deposits near SE river mouths, and clay fill in large sinks in limestone areas
- UNCONFORMITY—
- Mariana limestone (Pliocene and Pleistocene)**
 The maximum aggregate thickness of the Mariana limestone formation is estimated to be between 550 and 600 feet (Risdan Point Quadrangle)
- QTmr** Reef facies (Pliocene and Pleistocene)—massive, generally compact, porous, and cavernous white limestone of reef origin, especially along cliff facies, made up mostly of corals in position of growth in matrix of encrusting calcareous algae
 - QTma** Hagåtña argillaceous member (Pliocene and Pleistocene)—coarse to fine-grained pale-yellow, tan, or brown fossiliferous detrital limestone containing 2 to 5 percent disseminated clay and as much as 20 percent clay in pockets and cavities; includes undifferentiated lenses of above facies. Formation typically unconformable upon underlying rocks.
- UNCONFORMITY—
- Tal** Allfan limestone (Miocene and Pliocene)—Massive coarse to fine-grained recrystallized limestone generally pale pink, buff, or white but locally red, yellow, or brown. Characterized by dominance of stictolite *Porites* and *Acropora* and by long calcite tubes formed by burrowing worms or gastropods. Locally argillaceous above base. Maximum estimated thickness of the Allfan limestone is 150 feet
 - Tt** Talsay member (Oligocene)—yellow, green, and red clay and lenticular clayey conglomerate and lignite; gray to green marl containing stictolite *Porites* and *Acropora*, and interbedded limestone lenses, 2 to 30 feet thick. Generally unconformable with the volcanics; locally overlies the Borya limestone
 - Ta** Alutom formation (Eocene and Oligocene)—bedded breccias, conglomerates, sandstones, sandy limestones, and micritic bioclastic limestones. Clasts in the breccias and conglomerates generally are two-pyroxene andesites, although rare olivine phric basalts and hornblende andesite clasts also are present. Estimated thickness of the Alutom formation ranges from 1850 to 2000 feet

EXPLANATION OF MAP SYMBOLS

- Contact—Dashed where approximately located, gradational, or inferred
- Fault (showing dip)—Solid where definitely located; dashed where approximately located; dotted where concealed. Querries indicate uncertainty as to existence of fault. Arrows show relative movement. U, upthrown side; D, downthrown side
- Thrust fault—Dashed where inferred
- Anticline—Showing crestline and bearing and plunge of axis
- Syncline—Showing position of trough and bearing and plunge of axis
- Strike and dip of beds
- Inclined



Base from U.S. Geological Survey, 1:24,000 GIS quadrangle



GEOLOGIC MAP OF APRA HARBOR QUADRANGLE, GUAM

Revisions proposed and mapped by
H.G. Siegrist, Jr. and Mark K. Reagan
 Field interpretations assisted by
Richard H. Randall and John W. Jensen
 Digital cartography by Linda Masonic
 2007