
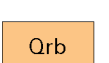

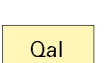

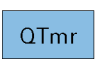


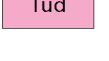

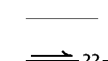
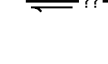


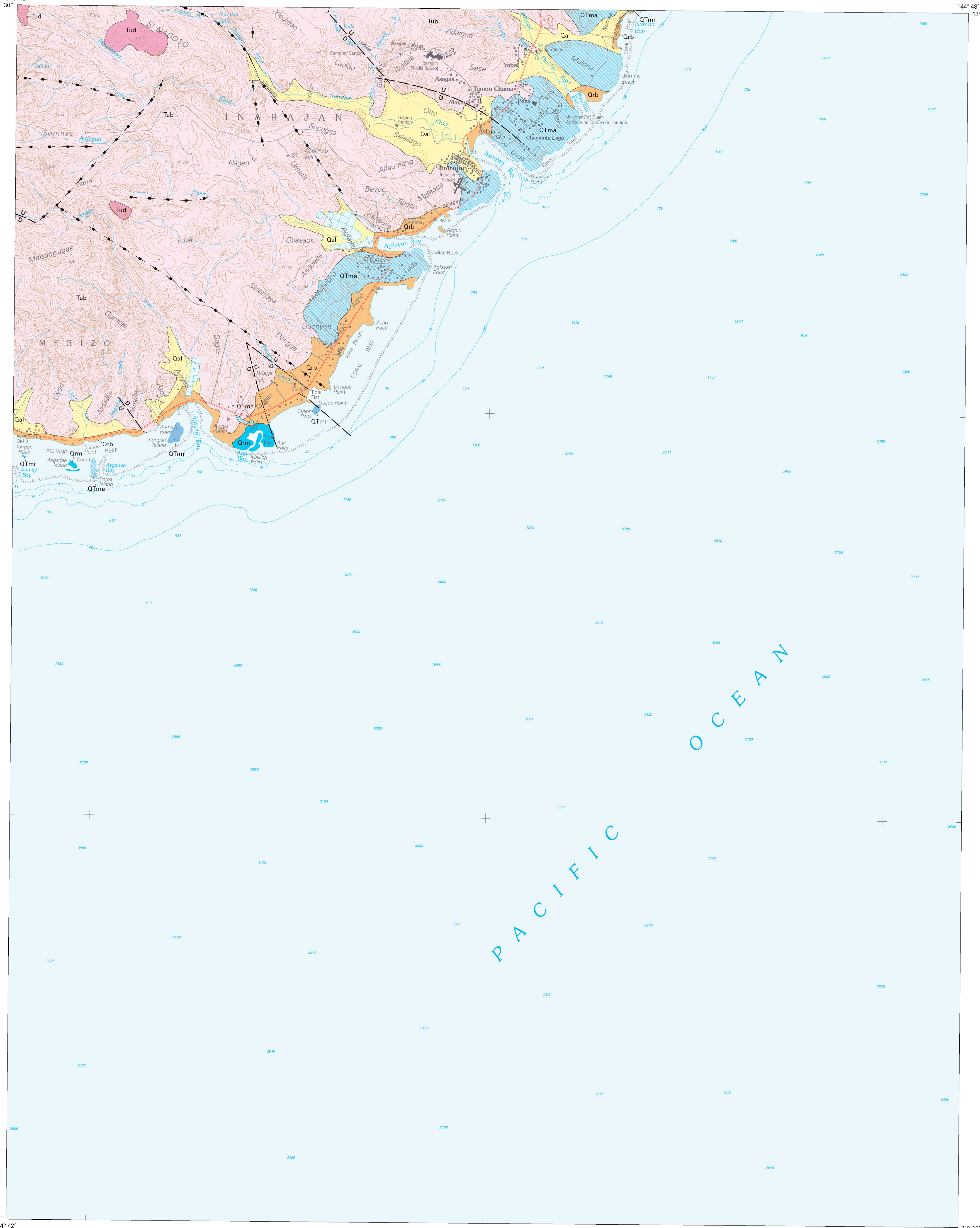


DESCRIPTION OF MAP UNITS

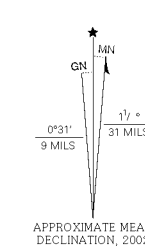
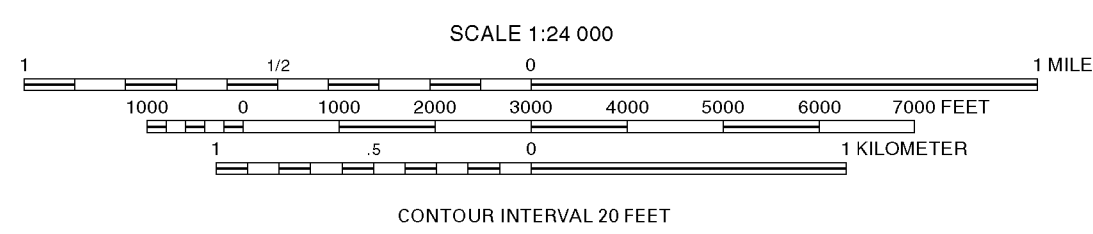
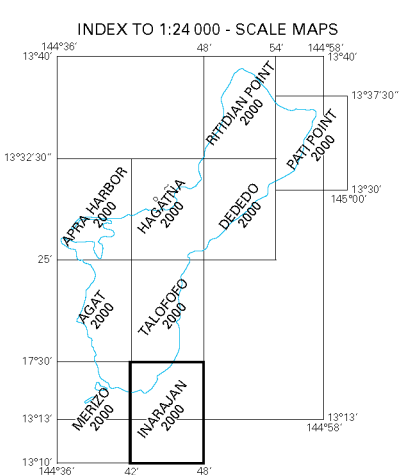
-  **Reefs**—reef platforms of living coral, coralline algae, and reef sediment, raised terraced ramps and pools, and algal encrusted intertidal bedrock outcrops, including basaltic outcrops along the southwest coast and limestone outcrops on the platform margin from Ritidian Point south to Urano Point
 -  **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 Agat
 -  **Qal** **Alluvium (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 (Ritidian Point Quadrangle)
 -  **OTmr** **Reef facies (Pliocene and Pleistocene)**—massive, generally compact, porous, and cavernous white limestone of reef origin, especially along cliff faces, 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 other Mariana Limestone facies. Formation typically unconformable upon underlying rocks.
- UNCONFORMITY—
-  **Umatac formation (Oligocene-Miocene)**
 Aggregate thickness of formation about 2200 feet
 -  **Tud** **Dandan flow member (Miocene)**—compact medium- to coarse-grained porphyritic basalt flows separated from the underlying Bolanos pyroclastic member by a flow breccia approximately 10 feet thick; maximum thickness of member 50 feet.
 -  **Tub** **Bolanos pyroclastic member (Miocene)**—breccias, conglomerates, and sandstones consisting largely of fragmented andesite. These andesites typically have prominent euhedral augite phenocrysts up to 1 centimeter in length and millimeter-scale plagioclase phenocrysts. Limestone clasts are conspicuous in some breccias and conglomerates. Estimated thickness of the Bolanos pyroclastic member ranges from 750 to 1000 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. Quizzes indicate uncertainty as to existence of fault. Arrows show relative movement. U, upthrown side; D, downthrown side
-  **Thrust fault**—Dashed where inferred
-  **Strike of vertical joints**—A line of joint symbols indicates a prominent joint or structural lineament, along which unrecrystallized limestone is cut by a dominant set of joints in which solution has produced deep fissures bounding elongate, pinnacled ridges or along which volcanic rocks are cut by recognizable structural lines that show as a series of knobs and ridges crossing topographic trends or as fine fissures. In places, drainage patterns and valley-wall alignments are determined by these lines. Minor movement at the zone may have occurred, but significant stratigraphic displacement is not shown



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



GEOLOGIC MAP OF INARAJAN QUADRANGLE, GUAM

Revisions proposed and mapped by
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 Field interpretations assisted by
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 Digital cartography by Linda Masonic

2007