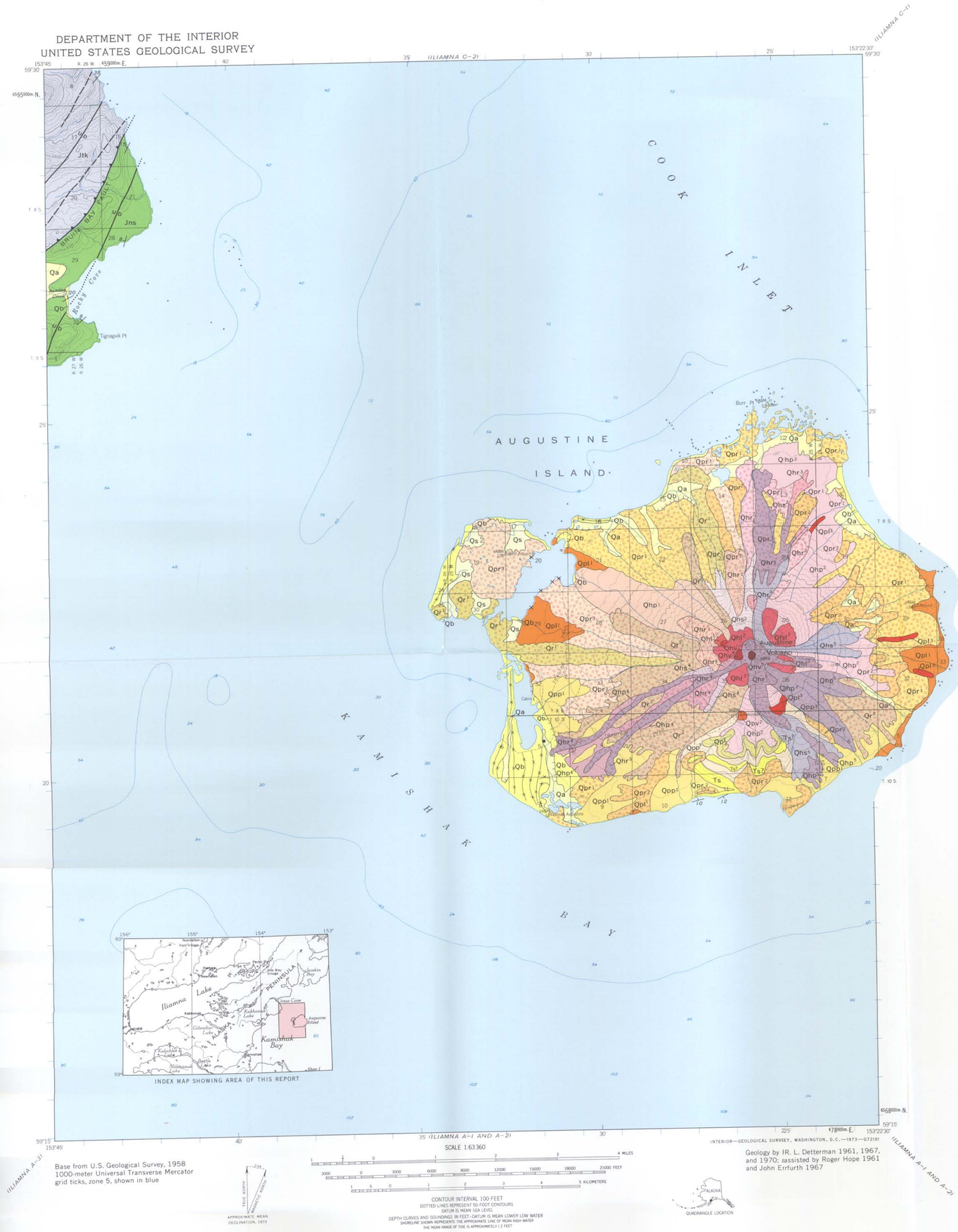
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

GEOLOGIC QUADRANGLE MAP
ILIAMNA B–2 QUADRANGLE, ALASKA
GQ–1068




SCALE 1:63 360

Base from U.S. Geological Survey, 1958
1000-meter Universal Transverse Mercator grid ticks, zone 5, shown in blue

Geology by IR. L. Detterman 1961, 1967, and 1970; assisted by Roger Hope 1961 and John Errfurth 1967

APPROXIMATE MEAN DECLINATION, 1973

CONTOUR INTERVAL 100 FEET
DOTTED LINES REPRESENT 50-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL
DEPTH CURVES AND SOUNDINGS IN FEET–DATUM IS MEAN LOWER LOW WATER
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
THE MEAN RANGE OF TIDE IS APPROXIMATELY 12 FEET

QUADRANGLE LOCATION

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D.C.—1973—G72181

# GEOLOGIC MAP OF THE ILIAMNA B–2 QUADRANGLE, AUGUSTINE ISLAND, ALASKA

By
Robert L. Detterman

1973

## EXPLANATION

Augustine Volcanics

| | Lava flows | Vent plugs and domes | Volcanic mud and rubble flows | Pumice deposits | Scoria and cinders |
|---|---|---|---|---|---|
| Holocene — 1963–64 eruption | | Qhv5 Vent plug — *Composition unknown* | Qhr5 Volcanic mud flow — *Thin and fluid. Includes vent-rubble* | Qhp5 Lapilli and sand — *Minor blocks and bombs. Light-gray to tan* | Qhs5 Cinders with some scoria — *Many bombs; dark-gray* |
| Holocene — 1935 eruption | | Qhv4 Vent plug — *Andesite* | Qhr4 Volcanic rubble flows — *Coarse fragments; includes crater rim fragments* | Qhp4 Sand with minor lapilli and bombs — *Dark-gray* | Qhs4 Scoria and cinders — *Many blocks; dark-gray* |
| Holocene — 1902 eruption | | | Qhr3 Volcanic mud flow — *Includes some coarse rubble and crater rim fragments* | | |
| Holocene — 1883 eruption | Qhi2 Hypersthene-augite andesite — *Glassy. May include some breccia in crater walls; short and steep-sided flows* | | Qhr2 Volcanic rubble flow — *Short and steep-sided; mainly coarse debris; few lava channels* | Qhp2 Lapilli with minor sand — *Light-tan, light- to dark-gray, and white* | Qhs2 Scoria with minor cinders — *Many blocks and bombs* |
| Holocene — Undated | Qhi1 Andesite | Qhv1 Vent plug — *Andesite* | Qhr1 Volcanic mud — *Possibly of lahar-type* | Qhp1 Lapilli — *Gray* | |
| Pleistocene and Holocene | | | Qr2 Volcanic rubble flow — *Long fluid; many blocks; numerous channels, some with lava levees. May represent several eruptions* | | |
| Pleistocene and Holocene | | | Qr1 Volcanic mud flow — *Long, viscous, many large blocks, lahar type; may represent several eruptions* | Qp1 Lapilli with minor sand — *Light-gray to white* | |
| Pleistocene | Qpi2 Hypersthene-augite andesite — *Steep-sided; dikes and lava levees. May represent more than one eruption* | | Qpr3 Volcanic rubble flow — *Mainly coarse debris; modified by sea erosion; may represent more than one eruption* | Qpp3 Lapilli with interbeds of ash and sand — *Light-tan, pink, and white* | |
| Pleistocene | | Qpv2 Vent plug — *Hypersthene-augite andesite and dacite. Dark-gray to black* | Qpr2 Volcanic rubble and mud flows — *Some agglomerate. Many large blocks; gray to light-tan and pink; modified by sea erosion; may represent several eruptions* | | |
| Pleistocene | Qpi1 Andesite to rhyodacite — *May represent more than one eruption* | | Qpr1 Volcanic rubble flow, mainly coarse debris — *Distal ends highly modified by sea erosion; may represent several eruptions* | Qpp1 Lapilli and blocks — *Light-tan to white; may represent several eruptions* | |

Surficial deposits and bedded rocks

QUATERNARY

Qs — Salt marsh and raised tidal flat deposits

Qa — Alluvium and alluvial fan deposits

Qb — Beach and raised beach deposits

TERTIARY

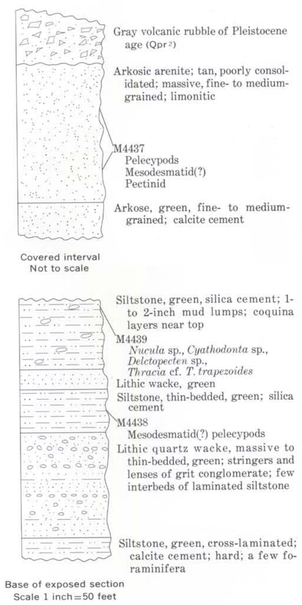
Miocene or Pliocene — Ts — Arkose, lithic wacke, grit conglomerate, and siltstone

JURASSIC

Upper Jurassic — Jns — Snug Harbor Siltstone Member of Naknek Formation — *Green siltstone with minor sandstone and conglomerate*

Lower Jurassic — Jtk — Talkeetna Formation — *Volcanic breccia, agglomerate, and lava flows*

SECTION OF MIOCENE OR PLIOCENE SEDIMENTARY ROCKS EXPOSED ON SOUTH SHORE OF AUGUSTINE ISLAND




Geologic contact

U / D — Fault showing relative movement
*Dashed where approximately located; dotted where concealed. U, upthrown block; D, downthrown block; unlettered where direction unknown*

High-angle reverse fault

38 — Strike and dip of beds

Contact of 1902 plug-dome destroyed by 1963 eruption

× — Points of measured uplift after 1964 earthquake

Raised beach ridges

Marine scarps and terraces

■ — Location of sample for carbon-14 analysis

Note: After this map was drafted in final form, geologic investigations of Augustine Island in 1972 disclosed that areas mapped as Ts? are the Naknek Formation (Jns), of Late Jurassic age. Additionally, a small area of the Kaguyak Formation, of Late Cretaceous age, was found in a gully underlying Qr2 at a point 0.6 miles S 60° W of VABM Kamishak

For sale by U.S. Geological Survey, price $1.00
Explanatory pamphlet accompanies map