



EXPLANATION

QUATERNARY

MISSISSIPPIAN

CARBONIFEROUS

DEVONIAN

SILURIAN(?) OR DEVONIAN(?)

INTRUSIVE IGNEOUS ROCKS

CONTACT

FAULT

SYNCLINE

PLUNGE OF MINOR ANTICLINE

PLUNGE OF MINOR SYNCLINE

STRIKE AND DIP OF BEDS

STRIKE AND DIP OF OVERTURNED BEDS

STRIKE OF VERTICAL BEDS

HORIZONTAL BEDS

GENERALIZED STRIKE AND DIP OF CRUMPLED, Plicated, RENULATED OR UNDULATING BEDS

Qag
Unconsolidated deposits
Alluvial, colluvial, and valley glacial deposits undifferentiated. Gravel, sand, silt, and talus debris

Miu
Mil
Iyookten formation
Miu, upper limestone member, dominantly dark-gray, cherty, thin- to thick-bedded.
Mil, middle member, dominantly dark-gray shale, argillite, and noncalcareous to calcareous shaly limestone
Ml, lower limestone member

Df **Dfd**
Dfd **Dfa** **Dfb**
Freshwater Bay formation
Df, volcanic and sedimentary rocks, predominantly greenstone, rhyolite and andesite flows, tuffs, and breccias. Small amounts of sedimentary rocks mapped locally.
Dfd, an upper sequence of pyroclastic rocks with limestone and calcareous argillite.
Lower within the dominantly volcanic part of the formation, three clastic sequences at approximately the same general horizon are mapped.
Dfc, two thick argillite beds are separated by volcanic rocks.
Dfb, a thick sequence of massive indurated graywacke; probably lenticular in character.
Dfa, limestone and argillite, locally mapped

Dcu
Dcq
Dcl
Dcc
Cedar Cove formation
Dc, variable predominantly clastic sequence includes:
Dcu, thick massive fossiliferous limestone
Dcq, white quartzite occurring locally at base of Dcu
Dcl, conglomerate and graywacke
Dcc, volcanic rocks at base of Dcl

Dk
Kennel Creek limestone
Limestone, dark- and light-gray, thick-bedded to massive

Dse
Conglomerate of East Point
Conglomerate, indurated, in part calcareous

DSa
Argillite and graywacke
Medium- to thin-bedded, commonly calcareous

gr
Granitic intrusive rocks of granodioritic to granitic composition (Kennel Creek area)

qm
Gypsum Creek quartz monzonite
Quartz monzonite including granodiorite and marginal variants

dt
Dioritic intrusive rocks, including diorite, quartz diorite, and some granodiorite and marginal variants. Minor intrusive bodies

sl
Spessartite lamprophyre sill

Contact
Dashed where approximately located; short dashed where gradational or inferred, and indefinite boundaries of surficial deposits; queried where uncertain

Fault
Dashed where approximately located; short dashed where inferred; dotted where concealed; queried where uncertain. U, upthrown side; D, downthrown side. Arrows indicate relative movement; T designates upper plate of thrust fault

Syncline
Approximate position of axis of Freshwater Bay syncline, showing plunge

Plunge of minor anticline

Plunge of minor syncline

Strike and dip of beds
Barbed symbol indicates direction of dip and strike inferred from relatively clearly expressed criteria on aerial photographs

Inferred or generalized strike and dip of beds
Barbed symbol indicates generalized field data; barbed symbol indicates probable general direction of strike and dip inferred from aerial photographs

Strike and dip of overturned beds

Strike of vertical beds

Horizontal beds

Generalized strike and dip of crumpled, plicated, renulated or undulating beds

Base map from U.S. Geological Survey topographic quadrangles Sitka D-3 and D-4, Alaska, 1948

Geology by R. A. Loney, W. H. Condon, and J. T. Dutro, Jr., 1956-57

SCALE 1:63 360

CONTOUR INTERVAL 100 FEET
DATUM IS MEAN SEA LEVEL

GEOLOGIC MAP AND SECTIONS OF THE FRESHWATER BAY AREA, CHICHAGOF ISLAND, ALASKA