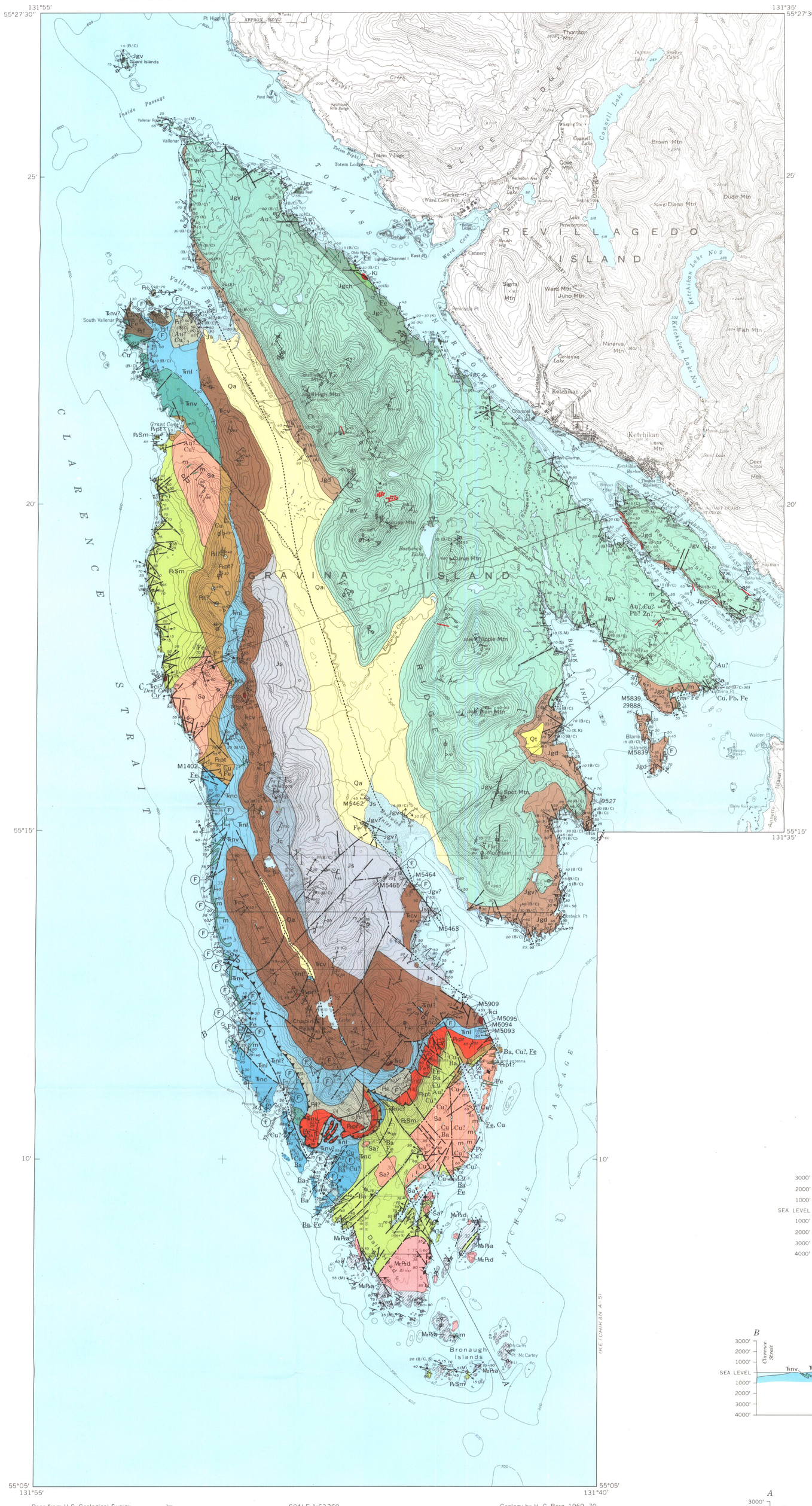


Base from U.S. Geological Survey 1:63,360 Ketchikan A-6, 1948, B-5, 1955, and B-6, 1954

Geology by H. C. Berg, 1969–70

SCALE 1:63 360

1 ½ 0 1 2 3 MILES

1 .5 0 1 2 3 KILOMETERS

CONTOUR INTERVAL 100 FEET
DATUM IS MEAN SEA LEVEL

DEPTH CURVES IN FEET—DATUM IS MEAN LOWER LOW WATER
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
THE AVERAGE RANGE OF TIDE IS APPROXIMATELY 12 FEET

EXPLANATION

QUATERNARY

Qa, Qt — Unconsolidated deposits
Qa, *alluvium*
Qt, *glacial-marine deposits*

SOUTHWEST OF BOSTWICK–VALLENAR VALLEY

Js, Jc — Slaty detrital rocks
Js, *siltstone and argillite; locally contains* Buchia
Jc, *conglomerate and grit*

Upper Jurassic

Middle or Upper Jurassic

UNCONFORMITY

Tcv, Tci — Chapin Peak Formation
Tcv, *altered basaltic volcanic rocks, chiefly pillow flows and volcanic breccia; subordinate to minor sedimentary rocks*
Tci, *altered basic intrusive rocks, chiefly diabase and microgabbro*

DISCONFORMITY OR LOCAL UNCONFORMITY

Tnl, Tnc, Tnv — Nehenta Formation
Tnl, *calcareous member; mainly carbonaceous limestone and siltstone in lower part; mainly calcareous grit, conglomerate, and sandstone in upper part*
Tnc, *conglomerate member; conglomerate, grit, and sandstone; minor limestone*
Tnv, *volcanic member; altered basaltic pillow flows, tuff, and tuffaceous limestone; minor marble*

Upper Triassic

UNCONFORMITY

MzPzd — Metadiorite
Mainly amphibolite-facies regionally metamorphosed plutonic rocks. Includes outcrops of unit MzPza *too small to show at scale of map; may include unrecognized outcrops of unit* PzSm

MzPza — Gneiss and schist
Mainly amphibolite-facies regionally metamorphosed bedded rocks. Includes apophyses of unit MzPzd *too small to show at scale of map; may include unrecognized outcrops of unit* PzSm

PzI — Limestone and dolomite
Minor metachert, phyllite, and conglomerate. Probably mainly Devonian; may include rocks as old as Silurian

PzPr, PzPt — Puppets Formation
PzPr, *metarhyolite member*
PzPt, *metatuff member*

PzF — Recrystallized fragmental rocks
In part tuffaceous. Minor metachert, dolomite, and fine-grained metasedimentary rocks. May include rocks as old as Silurian and as young as Devonian

UNCONFORMITY

Sa — Altered leucocratic plutonic rocks
Mainly trondhjemitic apophyses of the Annette pluton

PzSm — Undivided metamorphosed bedded and intrusive rocks
Mainly greenschist and epidote amphibolite (transitional) facies rocks of complex origin. Includes apophyses of unit Sa *too small to show at scale of map; on southern Gravina Island may include unrecognized outcrops of units* MzPzd *and* MzPza

i, m — Dikes
i, *intermediate dike, probably mainly andesitic. Commonly aphanitic, locally amygdaloidal*
m, *mafic dike, probably mainly basaltic; may include lamprophyric and ultramafic rocks. Generally aphanitic; locally diabasic or amygdaloidal*

Quartz vein
Dots indicate clusters of veinlets

NORTHEAST OF BOSTWICK–VALLENAR VALLEY

Ki — Intrusive rocks
Mainly olivine-bearing gabbro-diabase and porphyritic diorite

CRETACEOUS(?)

Jgch, Jgv, Jgc, Jgd — Gravina Island Formation
Jgc, *phyllitic conglomerate, grit, and sandstone. Locally includes hornfels* (Jgch)
Jgv, *andesitic to basaltic metavolcanic rocks*
Jgd, *phyllitic detrital rocks. Includes "belemnite-bearing conglomerate, graywacke, and black slate" of Chapin (1918) and others (see text). Minor metavolcanic rocks*

JURASSIC

TRIASSIC

UPPER PALEOZOIC OR LOWER MESOZOIC

PALEOZOIC OR LOWER MESOZOIC

MIDDLE PALEOZOIC

SILURIAN

SILURIAN OR OLDER PALEOZOIC

PLANAR AND LINEAR FEATURES

Symbols may be combined

Normal — Overturned
Contact, approximately located, showing dip
Dotted where concealed; queried where doubtful or hypothetical

Fault, showing dip, and rake of slickensides
Faults without attitudes are presumed to be high angle. Dashed where approximately located; dotted where concealed; queried where doubtful or hypothetical.
U, *upthrown side;* D, *downthrown side*

Thrust fault, showing dip
Dashed where approximately located; queried where hypothetical

Fault or lineament from aerial photographs
Not checked on ground

Elevated wave-cut cliff
Interpreted from aerial photographs by W. H. Condon

Minor fold — Open warps — Overturned syncline — Generalized attitude of overturned, isoclinal folds

Folds
Showing, where appropriate, crestline, troughline, direction of dip of limbs, plunge, and dip of axial plane

Inclined — Horizontal
Fold axes
Beds too tightly folded to show individual folds

Inclined — Overturned — Vertical — Horizontal
Strike and dip of beds
Ball indicates top of beds known from sedimentary structures

Inclined — Vertical — Horizontal — Parallel bedding and foliation
Strike and dip of foliation in metamorphosed bedded rocks

Inclined — Vertical
Strike and dip of foliation in intrusive rocks

Inclined — Vertical
Strike and dip of cleavage

Inclined — Horizontal
Bearing and plunge of lineation
Includes bedding-cleavage intersection (B/C); *alined minerals* (M); *striations (except slickensides)* (S); *rods and mullion structure* (R); *kink bands* (K); *and alined ellipsoidal clasts* (C)

Inclined — Vertical
Strike and dip of joint or joint set

Adit

Prospect (stone quarry on Pennock Island)
Mainly pit or trench. On southern Gravina Island may include flooded or overgrown adits and other workings

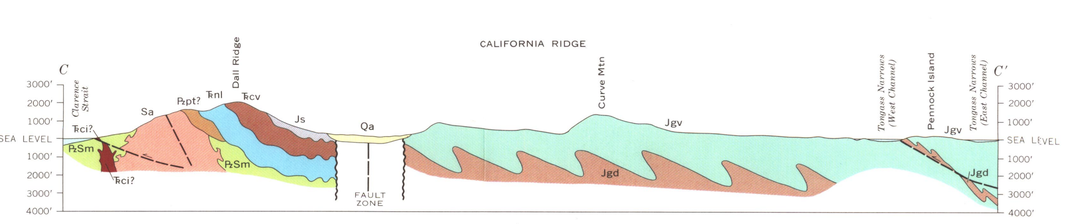
MINERAL OCCURRENCES

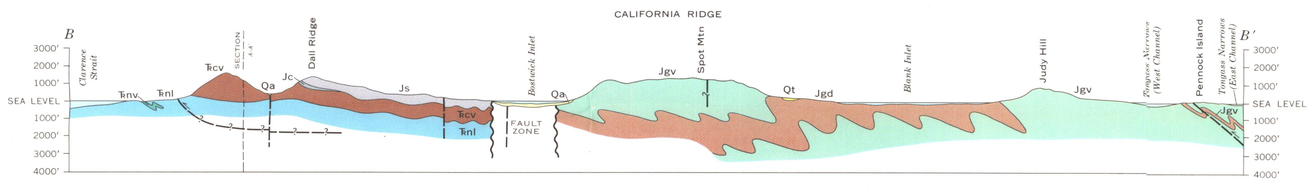
Au, gold
Ba, barite
Cu, chalcopyrite, malachite, azurite, and other secondary copper minerals
Fe, pyrite or hematite
Pb, galena
U, radioactive mineral
Zn, sphalerite

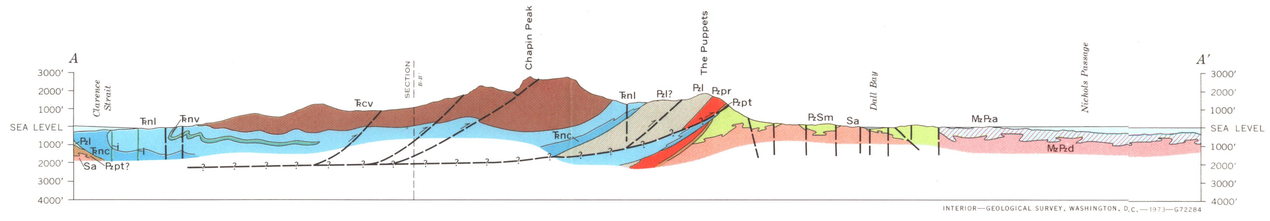
Cu, Ba, Fe
Conspicuous mineral occurrence

Au?, Cu?, U?
Unverified mineral occurrence
Not field checked during this investigation

(F) :M5462
Fossil locality
USGS locality number is designated for fossil localities discussed in text







INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D.C.—1973—G72284

GEOLOGIC MAP AND DIAGRAMMATIC SECTIONS OF GRAVINA ISLAND, ALASKA