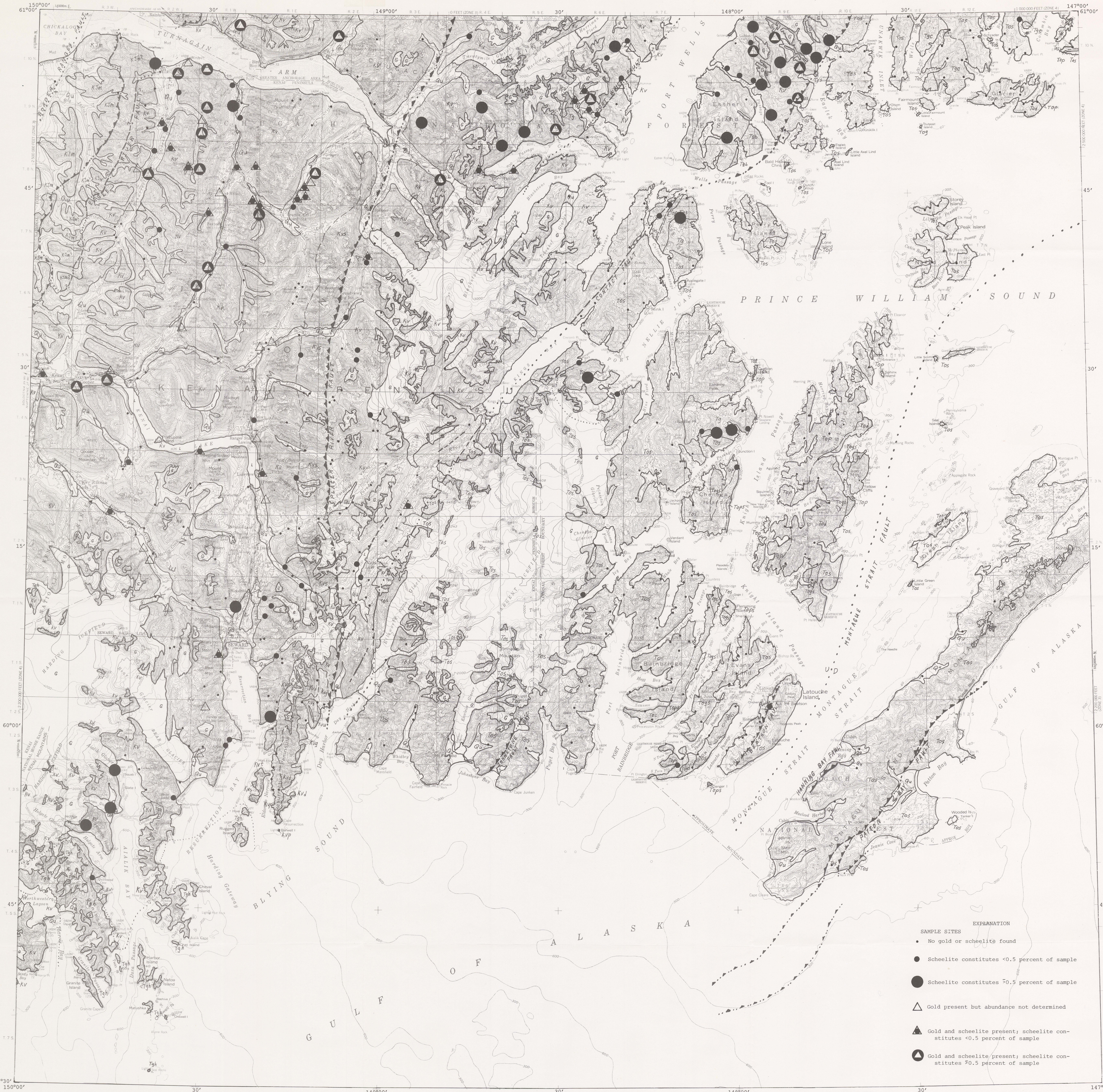
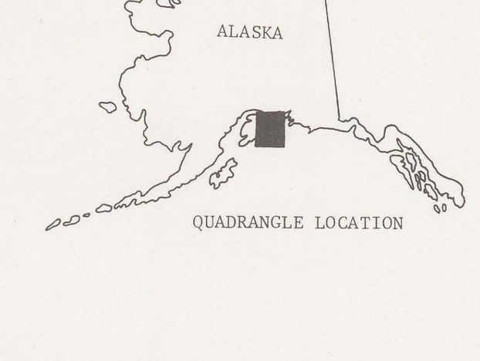
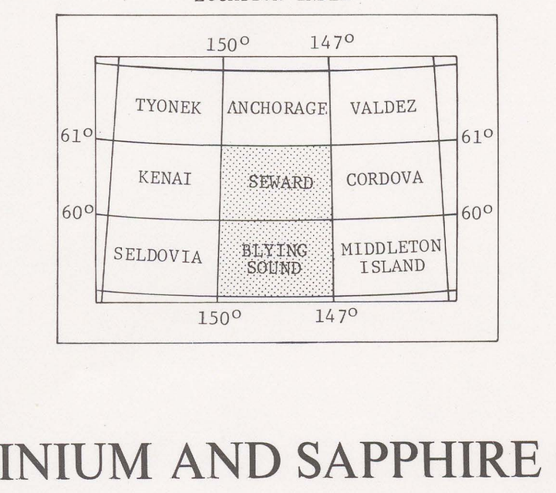
MISCELLANEOUS FIELD STUDIES
MAP MF-880G
SHEET 1 OF 2
FOLIO OF THE SEWARD AND BLYING SOUND QUADS., AK
MINERALOGICAL MAP, GOLD AND SCHEELITE



Base from U.S. Geological Survey, 1953



SCALE 1:250 000
5 0 5 10 15 20 25 MILES
5 0 5 10 15 20 25 KILOMETERS
CONTOUR INTERVAL 200 FEET
DATUM IS MEAN SEA LEVEL



Geology mapped by R. G. Tysdal and J. E. Case 1975-77; sampling and mineralogy by R. B. Tripp and W. D. Crim, 1975-76.

GOLD AND SCHEELITE

MINERALOGICAL MAPS SHOWING THE DISTRIBUTION AND ABUNDANCE OF GOLD, SCHEELITE, CHALCOPYRITE, ARSENOPYRITE, MINIUM AND SAPPHIRE CORUNDUM IN HEAVY-MINERAL CONCENTRATES IN THE SEWARD AND BLYING SOUND QUADRANGLES, ALASKA

By
R. B. Tripp and W. D. Crim
1978

USGS
science for a changing world

CORRELATION OF MAP UNITS

Units	Epoch	Period
L, G, Qu	Holocene	QUATERNARY
Tg	Oligocene	TERTIARY
Tgc	Eocene(?)	TERTIARY
Tgh	Eocene	TERTIARY
Tos, Tog, Top, Tod, Togs, Tops, Togb	Lower Eocene(?) and Paleocene	TERTIARY
Tgb	Oligocene(?) Eocene(?), or Paleocene(?)	TERTIARY
Kv, Kvs, Kvp, Kvd, Kvt, Kvg, Kvu	Upper Cretaceous	CRETACEOUS
KJm	Cretaceous and(or) Upper Jurassic	CRETACEOUS AND (OR) JURASSIC

DESCRIPTION OF MAP UNITS

L LAKE

G GLACIER

Qu UNCONSOLIDATED SEDIMENTARY DEPOSITS, UNDIVIDED (HOLOCENE)

Tg GRANITE AND GRANODIORITE (OLIGOCENE)--Unfoliated granite and granodiorite

Tgc GRANITE (EOCENE?)--Muscovite-bearing granite of Cedar Bay area

Tgb GABBRO (OLIGOCENE?, EOCENE?, OR PALEOCENE?)--Olivine-bearing plutonic rocks

Tgh GRANITE OF HARDING ICEFIELD REGION (EOCENE)--Foliated granite

ORCA GROUP (LOWER EOCENE? AND PALEOCENE)

Tos Sedimentary rocks, undivided--Flysch of sandstone and siltstone

Tog Greenstone, undivided--Basaltic rocks not distinguished as to pillows, dikes, or tuffs

Top Pillow basalt--Submarine extrusive basalt

Tod Sheeted basalt dikes--Sequence composed almost wholly of dikes

Togs Greenstone and sedimentary rocks--Basalt sills and dikes intruding flysch

Tops Pillow basalt and sedimentary rocks--Interbedded pillow basalt and flysch

Togb Grabbro--Small plutons and locally coarse-grained dikes

VALDEZ GROUP (UPPER CRETACEOUS)

Kv Sedimentary rocks, undivided--Flysch of sandstone and siltstone, in part metamorphosed to slate and phyllite

Kvs Schist--Sandstone, siltstone, and some tuffs metamorphosed to biotite grade of greenschist facies

Kvp Pillow basalt--Submarine extrusive basalt

Kvd Sheeted basalt dikes--Sequence composed almost wholly of dikes

Kvt Tuff--Aquagene tuff interbedded with flysch

Kvg Gabbro--Large pluton that intrudes sheeted dikes and flysch

Kvu Ultramafic rocks--Small tabular bodies of serpentinized dunite

KJm McHUGH COMPLEX (CRETACEOUS AND(OR) UPPER JURASSIC)--Weakly metamorphosed clastic and volcanic rocks; in large part is a melange

CONTACT--Dashed where approximately located; dotted where concealed

HIGH-ANGLE FAULT--Dotted where concealed

THRUST FAULT--Dotted where concealed. Sawteeth on upper plate

Discussion

Reconnaissance geochemical and mineralogical sampling was done in the Seward and Blying Sound quadrangles during 1975 and 1976 as part of the Alaska Mineral Resource Assessment Program (AMRAP). These maps show the distribution and abundance of gold, scheelite, chalcopyrite, arsenopyrite, minium, and sapphire corundum in heavy-mineral concentrates.

Heavy-mineral concentrate samples were collected at 525 sites from active channels and, locally, from the interface of streambeds and intermediate- to low-tide beaches. The heavy-mineral concentrates were obtained by panning stream sediments in the field to remove most of the light minerals. The panned samples were then sieved through a 20-mesh (0.8 mm) screen in the laboratory, and the minus-20 mesh fraction was further separated with bromoform (specific gravity: 2.86) to remove any remaining light-mineral grains. Magnetite and other strongly magnetic heavy minerals were removed from the heavy-mineral fraction using a hand magnet. The remaining sample was passed through a Frantz Isodynamic Separator[1] and a nonmagnetic fraction was obtained at a setting of 0.6 amperes. A split of this nonmagnetic fraction was examined for its mineralogical content using a binocular microscope and X-ray diffraction. The nonmagnetic concentrates primarily contain phyllite fragments, muscovite, sphene, zircon, apatite, rutile, and anatase. Small amounts of other minerals such as gold, scheelite, minium, sapphire corundum, and most sulfides will also be found in this fraction.

[1]The use of trade names is for descriptive purposes only and does not constitute endorsement of those products by the U.S. Geological Survey.

This map is one of a series, all bearing the number MF-880. Background information relating to this map is published as U.S. Geological Survey Circular 760, available free of charge from the U.S. Geological Survey, Reston, VA. 22092

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