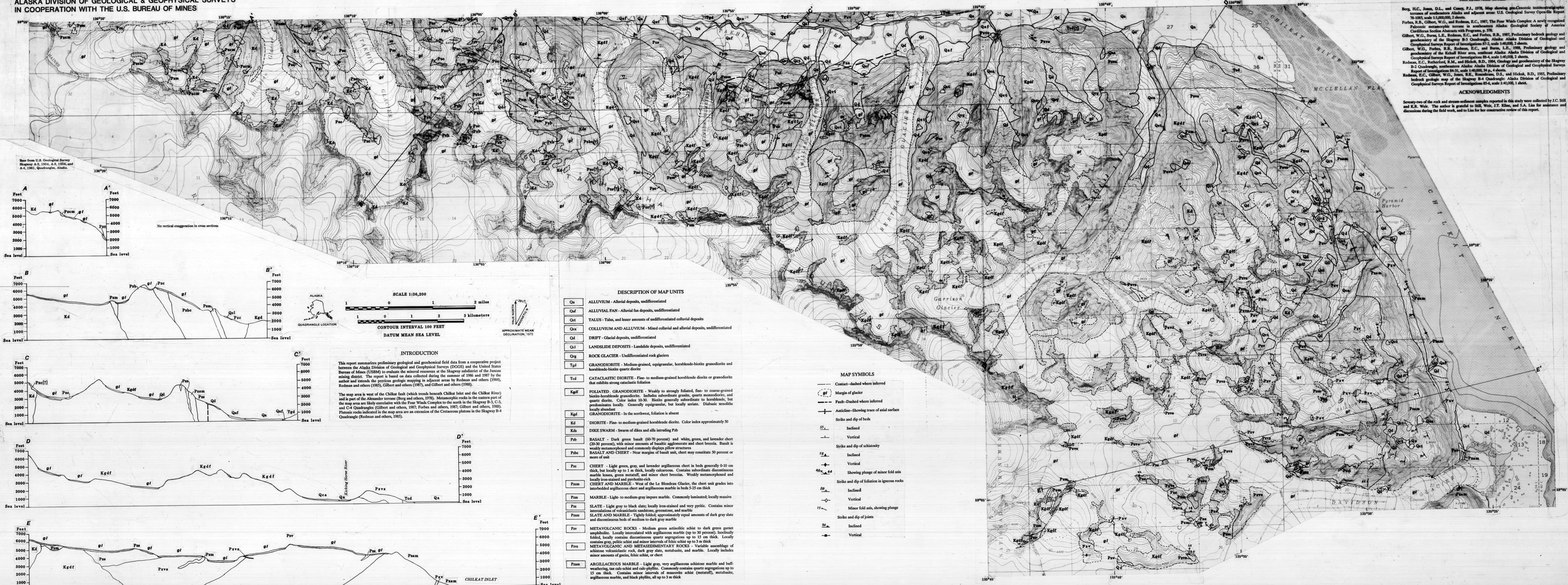
ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS
IN COOPERATION WITH THE U.S. BUREAU OF MINES



INTRODUCTION

This report summarizes preliminary geological and geochemical field data from a cooperative project between the Alaska Division of Geological and Geophysical Surveys (DGGS) and the United States Bureau of Mines (USBM) to evaluate the mineral resources at the Skagway subdistrict of the Juneau mining district. The report is based on data collected during the summer of 1986 and 1987 by the author and extends the previous geologic mapping in adjacent areas by Redman and others (1984), Redman and others (1985), Gilbert and others (1987), and Gilbert and others (1988).

The map area is west of the Chilkat fault (which trends beneath Chilkat Inlet and the Chilkat River) and is part of the Alexander terrane (Berg and others, 1978). Metamorphic rocks in the eastern part of the map area are likely correlative with the Four Winds Complex to the north in the Skagway B-3, C-3, and C-4 Quadrangles (Gilbert and others, 1987; Forbes and others, 1987; Gilbert and others, 1988). Plutonic rocks indicated in the map area are an extension of the Cretaceous plutons in the Skagway B-4 Quadrangle (Redman and others, 1985).

DESCRIPTION OF MAP UNITS

Qa	ALLUVIUM - Alluvial deposits, undifferentiated
Qaf	ALLUVIAL FAN - Alluvial fan deposits, undifferentiated
Qct	TALUS - Talus, and lesser amounts of undifferentiated colluvial deposits
Qca	COLLUVIUM AND ALLUVIUM - Mixed colluvial and alluvial deposits, undifferentiated
Qd	DRIFT - Glacial deposits, undifferentiated
Qsl	LANDSLIDE DEPOSITS - Landslide deposits, undifferentiated
Qrg	ROCK GLACIER - Undifferentiated rock glaciers
Tgd	GRANODIORITE - Medium-grained, equigranular, hornblende-biotite granodiorite and hornblende-biotite quartz diorite
Tcd	CATACLASTIC DIORITE - Fine- to medium-grained hornblende diorite or granodiorite that exhibits strong cataclastic foliation
Kgdf	FOLIATED GRANODIORITE - Weakly to strongly foliated, fine- to coarse-grained biotite-hornblende granodiorite. Includes subordinate granite, quartz monzodiorite, and quartz diorite. Color index 10-30. Biotite generally subordinate to hornblende, but predominates locally. Generally equigranular, but locally seriate. Diabasic xenoliths locally abundant
Kgd	GRANODIORITE - In the northwest, foliation is absent
Kd	DIORITE - Fine- to medium-grained hornblende diorite. Color index approximately 50
Kds	DIKE SWARM - Swarm of dikes and sills intruding Pzb
Pzb	BASALT - Dark green basalt (60-70 percent) and white, green, and lavender chert (30-30 percent), with minor amounts of basaltic agglomerate and chert breccia. Basalt is weakly metamorphosed and commonly displays pillow structures
Pzbc	BASALT AND CHERT - Near margin of basalt unit, chert may constitute 50 percent or more of unit
Pzc	CHERT - Light green, gray, and lavender argillaceous chert in beds generally 0-10 cm thick, but locally up to 1 m thick, locally calcareous. Contains subordinate discontinuous marble lenses, green metatuff, and minor chert breccias. Weakly metamorphosed and locally iron-stained and pyrrhotite-rich
Pzcm	CHERT AND MARBLE - West of the Le Blondeau Glacier, the chert unit grades into interbedded argillaceous chert and argillaceous marble in beds 5-25 cm thick
Pzm	MARBLE - Light- to medium-gray impure marble. Commonly laminated; locally massive
Pzs	SLATE - Light gray to black slate; locally iron-stained and very pyritic. Contains minor intercalations of volcaniclastic sandstone, greenstone, and marble
Pzsm	SLATE AND MARBLE - Tightly folded; approximately equal amounts of dark gray slate and discontinuous beds of medium to dark gray marble
Pzv	METAVOLCANIC ROCKS - Medium green actinolitic schist to dark green garnet amphibolite. Locally intercalated with argillaceous marble (up to 30 percent). Inclinally folded, locally contains discontinuous quartz segregations up to 15 cm thick. Locally contains gray, pelitic schist and minor intervals of felsic schist up to 3 m thick
Pzvs	METAVOLCANIC AND METASEDIMENTARY ROCKS - Variable assemblage of schistose volcaniclastic rock, dark gray slate, metabasite, and marble. Locally includes minor amounts of gneiss, felsic schist, or chert
Pzam	ARGILLACEOUS MARBLE - Light gray, very argillaceous schistose marble and buff-weathering, tan calc-schist and calc-phyllite. Commonly contains quartz segregations up to 15 cm thick. Contains minor intervals of muscovite schist (metatuff), metabasite, argillaceous marble, and black phyllite, all up to 3 m thick

MAP SYMBOLS

- Contact--dashed where inferred
- Margin of glacier
- Fault--Dashed where inferred
- Anticline--Showing trace of axial surface
- Strike and dip of beds
  - Inclined
  - Vertical
- Strike and dip of schistosity
  - Inclined
  - Vertical
  - Showing plunge of minor fold axis
- Strike and dip of foliation in igneous rocks
  - Inclined
  - Vertical
  - Minor fold axis, showing plunge
- Strike and dip of joints
  - Inclined
  - Vertical

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PRELIMINARY GEOLOGY OF THE NORTHERN CHILKAT RANGE, SOUTHEASTERN ALASKA

by
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1988

This report is a preliminary publication of DGGS. The author is solely responsible for its content and will appreciate candid comments on the accuracy of the data as well as suggestions to improve the report. DGGS publications are available at 3700 Airport Way, Fairbanks, Alaska 99709-3645 and 794 University Avenue, Suite 200, Anchorage, Alaska 99501. Maps may also be purchased at the following U.S. Geological Survey offices: Public Information Office, 701 C Street, Anchorage, Alaska 99513 and 4230 University Drive, Room 101, Anchorage, Alaska 99508. Mail orders should be addressed to the Fairbanks office. Cost $3.