DEPARTMENT OF THE INTERIOR UNITED STATES GEOLOGICAL SURVEY



MAPS SHOWING AEROMAGNETIC SURVEY AND INTERPRETATION OF THE SURVEY PASS QUADRANGLE, BROOKS RANGE, ALASKA

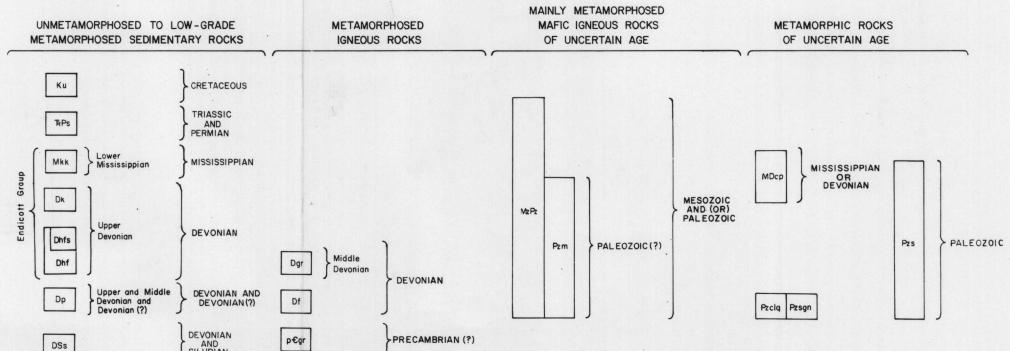
1982



# FOLIO OF THE SURVEY PASS QUADRANGLE, ALASKA MISCELLANEOUS FIELD STUDIES MAP MF-1176-G SHEET 3 OF 3

CORRELATION OF MAP UNITS

UNCONSOLIDATED DEPOSITS



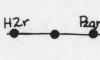
### Explanation for Aeromagnetic-Interpretation Map

Map-unit labels (for example, Pz qms, Pz msm) indicate the mapped rock type that is exposed closest to the crest of a magnetic high and is most likely the cause of the high. In some cases, the only rock types exposed near a magnetic high are the orange dolomitic marble unit or Skajit Limestone, which are unlikely to cause magnetic highs unless they contain skarns. In these cases, the sources of the magnetic highs are probably buried. The map-unit designations are taken from a more detailed geologic map (Nelson and Grybeck, 1980) than that used as a base for the aeromagnetic-interpretation map, because (1) although a simplified geologic base was required so as not to clutter the aeromagnetic map, the aeromagnetic map shows that there are magnetic units, especially within the lowgrade schist unit of the simplified map, that are greatly limited in areal extent compared with the lumped-together units of the simplified map; and (2) the inferred magnetic units are not exactly coextensive with any subdivisions shown on the detailed geologic map; they cut across unit boundaries, especially within the low-grade schist unit of the simplified geologic map used as the base of sheet 3. Hence, the unit designations identified with magnetic highs on the aeromagnetic-interpretation map suggest a possible subdivision of the low-grade shist unit, based upon magnetic variations, that is different from that used in the detailed geologic map. Table 2 shows the rock-unit symbols taken from the detailed geologic map along with the equivalent lumped unit symbols used on the

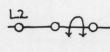
### AEROMAGNETIC SYMBOLS

AEROMAGNETIC INDEX CONTOURS—Hachured to indicate closed areas of lower magnetic inten-

sity. Contour interval 100 gam mas



AXIS OF SELECTED HIGH--Geologic symbol refers to rock type associated with high. Letter(s) with a number refer to numbered highs; queried where uncertain high belongs to suite of similarly numbered highs



AXIS OF SELECTED LOW--Queried where continuity uncertain. Arrows indicate low occurs at core of overturned anticlinorium. Letter with number refers to numbered lows

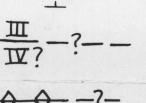


BOUNDARY OF INFERRED MAGNETIC ROCK UNIT--Solid where magnetic rock probably occurs at or near surface; dashed where magnetic rock probably

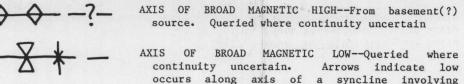


STRIKE AND DIP--Inferred attitude of magnetic rock

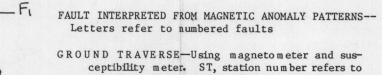
occurs at depth of 1 km or more



BOUNDARY BETWEEN MAJOR MAGNETIC TERRANES--Solid where might be evident at surface; dashed where occurs at depth of 1 km or more. Numbers identify terranes. Queried where uncertain



AXIS OF BROAD MAGNETIC LOW--Queried where continuity uncertain. Arrows indicate low occurs along axis of a syncline involving



sample number, table 1. Magnetometer profiles (la-lk) shown in figure 1 MAGNETIC LOW POSSIBLY CAUSED BY REVERSELY MAGNETIZED ROCK

A' PROFILE FOR MAGNETIC MODEL FIGURES

### DESCRIPTION OF MAP UNITS Unconsolidated Deposits

Qu SURFICIAL DEPOSITS, UNDIVIDED

#### Unmetamorphosed to Low-Grade Metamorphosed Sedimentary Rocks

Ku UNDIVIDED CONGLOMERATE--Quartz-pebble and igneous-pebble conglomerate; some interbedded volcanic

TH PS SHUBLIK AND SIKSIKPUK FORMATIONS (Triassic and Permian) -- Pink-weathering limestone of Shublik Formation (Triassic) and black slate and chert

> ENDICOTT GROUP (Mississippian and Devonian) -- In map area includes:

KAYAK SHALE AND KEKIKTUK CONGLOMERATE (Lower Mississippian) -- As mapped, unit includes related undifferentiated clastic rocks and a few outcrops of limestone in lower (?) part of Lisburne Group

KANAYUT CONGLOMERATE (Upper Devonian) -- Nonmarine rusty-weathering quartz sandstone, ferruginous mudstone, and black siltstone, and shale. Prominent, resistant layers of black-lichen-covered light-gray quartzite.

HUNT FORK SHALE (Upper Devonian) -- Dark-gray phyllite with minor quartz mudstone and sandstone. Upper part includes:

Rare conglomerate

Wacke sandstone member -- thick monotonous unit of interbedded rusty-weathering feldspathic sandstone and dark-gray mudstone and shale. Locally includes thin layers of reddish-gray fossiliferous limestone and calcareous sandstone.

GRAY PHYLLITE--Mainly gray, calcareous phyllite and muscovite schist; contains limestone beds up to 20 m thick. Locally consists of lenses of quartzpebble conglomerate interbedded with orangeweathering, fossiliferous limestone, black siliceous phyllite, or micaceous schist

DSs SKAJIT LIMESTONE (Devonian and Silurian) -- Massive white to light-gray granoblastic marble and orange-weathering dolomitic marble. Some interlayered chlorite schist

# Metamorphosed Igneous Rocks

Dgr GNEISSIC GRANITE--Medium- to coarse-grained biotitemuscovite orthogneiss ranging in composition from granite to alkali-feldspar granite. Commonly welldeveloped augens; locally cataclastically deformed

Df METAFELSITE--Mainly quartz-albite-feldspar schist; locally porphyroblastic muscovite-biotite-quartz-albite-feldspar rocks that retain igneous textures

pegr GRANITIC SCHIST--Medium-grained porphyroblastic gray biotite-quartz-feldspar schist

### Mainly Metamorphosed Mafic Igneous Rocks of Uncertain Age

MAPIC VOLCANIC ROCKS, PHYLLITE, SANDSTONE, AND CHERT--Consists mainly of interbeds and fault slivers of Devonian(?) to Jurassic pillow basalt, greenstone, and diabase, gray phyllite, wacke sandstone, minor Triassic radiolarian chert, Mississippian radiolarian chert, and thin beds of Paleozoic limestone. Weakly metamorphosed to unmetamorphosed

MAFIC VOLCANIC AND INTRUSIVE ROCKS--Basalt, greenstone, and altered gabbro. Unmetamorphosed to slightly metamorphosed

# Metamorphic Rocks of Uncertain Age

MDcp CALCAREOUS PHYLLITE--Black calcareous phyllite with thin dark-gray limestone lenses

LOW-GRADE SCHIST--Chlorotoid-bearing quartzmuscovite schist, calcareous quartz-albitemuscovite schist, quartzite, and rare thin limestone beds. Schist locally contains glaucophane

Pzclq CHLORITIC QUARTZITE--Chlorite quartzite and chloritic quartz schist

Pzsgn LOW- TO MEDIUM-GRADE SCHIST AND GNEISS--Interlayered quartz-muscovite schists and orangeweathering marble. Medium-grade schist and paragneiss with garnet, biotite, and amphibole near plutons

## GEOLOGIC SYMBOLS

inferred; dotted where concealed; queried where uncertain

THRUST FAULT--Dashed where approximately located ir inferred; dotted where concealed; queried where uncertain. Sawteeth on upper plate