DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

FOLIO OF THE
GOODNEWS AND HAGEMEISTER ISLAND QUADRANGLES REGION

OPEN FILE REPORT 78-9-C

GRISCOM—AEROMAGNETIC INTERPRETATION

SHEET 2 OF 2

EXPLANATION

GEOLOGY GENERALIZED FROM HOARE AND CONRAD (1978)

CORRELATION OF MAP UNITS

SURFICIAL DEPOSITS

Q+	QUATERNARY

VOLCANIC, SEDIMENTARY, AND METAMORPHIC ROCKS		INTRUSIVE ROCKS	
Qtb	Pleistocene	QUATERNARY	
QTs	Plio-Pleistocene	QUATERNARY or TERTIARY	
Tv	Early Tertiary	TERTIARY	Tit, Tim, Tn
			Tkg
Kk	Late Cretaceous Maastrichtian ?	TERTIARY AND CRETACEOUS	
Ks	Upper and Lower Cretaceous	CRETACEOUS	
Kk, Klg, Kls, Kcg	Lower Cretaceous		
KJvs	Lower Cretaceous to Middle Jurassic	CRETACEOUS AND JURASSIC	
Jk, Jvs	Middle to Lower Upper Jurassic	JURASSIC	Jg, Jum, Jt
Jtrs	Lower Jurassic		
MzPz	Lower Cretaceous to Lower Ordovician ?	MESOZOIC AND PALEOZOIC	
Pzss		PALEOZOIC	Pzsg
pEx		PRE-CAMBRIAN	

DESCRIPTION OF MAP UNITS

SURFICIAL DEPOSITS

Q	UNCONSOLIDATED SEDIMENTARY DEPOSITS

SEDIMENTARY, VOLCANIC, AND METAMORPHIC ROCKS

Qtb	TOGIAK BASALT
QTs	UNCONSOLIDATED MARINE BEACH SEDIMENTS
Tv	VOLCANIC ROCKS AND VOLCANOGENIC SEDIMENTS - Chiefly andesitic flows and tuffs
Kst	SUMMIT ISLAND FORMATION - Nonmarine conglomerate, sandstone, shale, and carbonaceous mudstone
Kk	KUSKOKWIM GROUP - Conglomerate overlain by interbedded graywacke, siltstone, and shale; commonly micaceous; mostly marine
Kb	BOCKIS RIDGE GRAYWACKE - Chiefly interbedded calcareous graywacke, siltstone, and conglomerate with local coquinas of Aucella shells
Klg	LIME GRIT AND LIMESTONE - Chiefly angular grit cemented by bioclastic limestone
Kls	TUFFS AND SEDIMENTARY ROCKS - Varied assemblage of andesitic tuffs, graywacke, siltstone, impure limestone, and tuffaceous chert; tuff and tuffaceous sediments commonly inconsolidated
Kcg	GRAYWACKE AND CONGLOMERATE - Marine graywacke, siltstone, and conglomerate; commonly calcareous
KJvs	VOLCANIC AND SEDIMENTARY ROCKS - Interbedded intermediate to mafic flows, tuffs, tuffaceous sedimentary rocks, and argillites; intermediate composition tuffaceous rocks commonly inconsolidated
Jk	KULUKAK GRAYWACKE - Chiefly very hard lithic graywacke and siltstone with local conglomerate
JVs	VOLCANIC AND SEDIMENTARY ROCKS - Andesitic, trachytic, and basaltic flows and breccias interbedded with volcanogenic sedimentary rocks
JTrs	VOLCANIC AND SEDIMENTARY ROCKS - Mafic flows and breccias interbedded with volcanogenic sedimentary rocks; fractures commonly coated with laumontite
MzPz	MESOZOIC AND PALEOZOIC ROCKS UNDIVIDED - Widespread marine unit including mafic to intermediate volcanic rocks, tuffaceous sedimentary rocks, chert, argillites, siltstone, graywacke, conglomerate, and limestone
Mrs	VOLCANIC AND SEDIMENTARY ROCKS (Upper Triassic) - Locally differentiated marine unit of chert, tuffaceous cherty rocks, argillite, siltstone, wacke, conglomerate, limestone, and mafic flows and breccia
Pv	VOLCANIC ROCKS (Permian) - Locally differentiated marine unit of pillow basalts, massive mafic flows, breccia, and tuff
Pl	LIMESTONE (Permian) - Locally differentiated thin unit of marine limestone; generally tuffaceous, commonly has strong fetid odor
DOl	LIMESTONE - Thin-bedded to massive limestone with minor interbedded tuff and mafic flows; locally recrystallized to marble with interbedded quartzite and quartz-chlorite schist
Pzcs	CALCAREOUS SCHIST (Permian or older?)
pEx	KANEKTOK METAMORPHIC COMPLEX - Gneiss, schist, amphibolite, and marble; upper greenschist to lower amphibolite facies
pEl	MARBLEIZED LIMESTONE - Locally differentiated

INTRUSIVE ROCKS

Tit	FELSIC INTRUSIVE ROCKS - Chiefly rhyolitic to dacitic dikes and sills; locally mapped
Tim	MAFIC INTRUSIVE ROCKS - Diabase, basalt, diorite, and gabbroic dikes and sills locally mapped
Tx	HANSBROUGH COMPLEX - Quartz-rich porphyritic felsite intrusive-extrusive complex of dikes, sills, tuff, and breccias
TKg	GRANITIC ROCKS - Chiefly quartz monzonite, granodiorite, and quartz diorite stocks
Jg	GABBROIC ROCKS - Commonly shows compositional layering and generally associated with ultramafic rocks
Jum	ULTRAMAFIC ROCKS - Serpentinite, dunite, and websterite
Jt	TRONDHJEMITE - Associated with serpentinite and gabbro
Pzsg	METAGABBRO AND URALITIZE - Probable dismembered ophiolite complex of mafic flows, dikes, volcaniclastic rocks, and gabbro altered by greenschist facies metamorphism and calcium metasomatism

GEOLOGIC SYMBOLS

Contact. Known, approximately located, gradational, and inferred. Most contacts between bedded rock units are probably faults

Fault or fault zone. Dashed where approximately located, inferred, or concealed

Thrust fault. Dashed where approximately located, inferred, or concealed. Sawteeth on upper plate

Monfalls.

AEROMAGNETIC INTERPRETATION SYMBOLS

Fault inferred from aeromagnetic data; dashed where approximately located

Thrust fault inferred from aeromagnetic data

Boundary between magnetic and less magnetic rocks, dashed where approximately located. Either crops out or is near surface

Covered boundary between magnetic and less magnetic rocks. Location approximate. May be at depths in excess of 1 km

C_2 Magnetic anomaly caused by a concealed source. Subscript is a label for discussion purposes.

R R_{Rc} Magnetic anomaly caused by rocks with reverse remanent magnetization. Most of these anomalies are associated with granitic plutons. Subscript "C" if rocks concealed

G G_{Gc} Magnetic anomaly believed to be caused by a granitic pluton. Subscript "C" if pluton is concealed

G_a G_{aC} Magnetic anomaly believed to be caused by gabbroic rocks; subscript "C" if rocks concealed

MU MU_c Magnetic anomaly believed to be caused by an assemblage of mafic and ultramafic rocks; subscript "C" if rocks concealed. Many of these assemblages are probably ophiolites

U Magnetic anomaly believed to be caused by ultramafic rocks

V V_R V_{RC} Magnetic anomaly believed to be caused by volcanic rocks; subscript "C" if rocks concealed. Subscript "R" if anomaly caused by reverse remanent magnetization

AEROMAGNETIC INTERPRETATION OF THE GOODNEWS AND HAGEMEISTER ISLAND QUADRANGLES REGION, SOUTHWESTERN ALASKA

BY

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1978

BASE MAP INDEX

Base compiled from U.S. Geological Survey 1:63-360 (A) and 1:250,000 (B) scale topographic series 1952-1957 and advance field completion material (C) 1976 by Menlo Park Base Map Section

SCALE 1:250 000

CONTOUR INTERVALS 50, 100, AND 200 FEET

DATUM IS MEAN SEA LEVEL

APPROXIMATE MEAN DECLINATION 1976

BACKGROUND INFORMATION RELATING TO THIS REPORT IS PUBLISHED AS U.S. GEOLOGICAL SURVEY OPEN-FILE REPORT 78-9
(AVAILABLE FROM THE SAME SOURCE AS THE MAPS)

This report is preliminary and has not been edited or reviewed for conformity with Geological Survey standards and nomenclature.