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FOLIO OF CHIGNIK AND SUTWIK ISLAND QUADRANGLES, ALASKA
MISCELLANEOUS FIELD STUDIES
MAP MF — 1053-B
SHEET 2 OF 2

CASE AND OTHERS—AEROMAGNETIC SURVEY AND INTERPRETATION

Base from U.S. Geological Survey, 1963

Geology from Detterman and others, 1979

SCALE 1:250 000

5 0 5 10 15 MILES
5 0 5 10 15 KILOMETERS

CONTOUR INTERVAL 200 FEET

APPROXIMATE MEAN DECLINATION AT CENTER OF MAP, 1980

MAPS SHOWING AEROMAGNETIC SURVEY AND GEOLOGIC INTERPRETATION OF THE CHIGNIK AND SUTWIK ISLAND QUADRANGLES, ALASKA

By

J.E. Case, D.P. Cox, David E. Detra, R.L. Detterman, and Frederic H. Wilson

1981

GEOLOGIC INTERPRETATION

Map Area

CORRELATION OF MAP UNITS

SURFICIAL DEPOSITS AND SEDIMENTARY ROCKS	VOLCANIC ROCKS	INTRUSIVE ROCKS		
Qs	Qad Qcs Qv		Holocene and Pleistocene	QUATERNARY
Tmb	Tv	Ti	Pliocene and Miocene	TERTIARY
Unconformity				
Tt	Tm		Miocene or Oligocene*	
Unconformity			Eocene and Paleocene	
Khc		Tpd	Paleocene	
Unconformity			Upper Cretaceous	CRETACEOUS
KJhs			Lower Cretaceous to Middle Jurassic	CRETACEOUS AND JURASSIC

DESCRIPTION OF MAP UNITS

SURFICIAL DEPOSITS AND SEDIMENTARY ROCKS

Qs — SURFICIAL DEPOSITS--Unconsolidated alluvium, colluvium, glacial, marine, swamp and eolian deposits; mainly sand, silt, gravel and pumice

Tmb — MILKY RIVER FORMATION OF GALLOWAY (1974) AND BEAR LAKE FORMATION--Milky River Formation (Pliocene); mainly volcanogenic sandstone and conglomerate, non-marine. Bear Lake Formation (Miocene); sandstone, conglomerate, siltstone, shale, and coal; shallow marine to non-marine

Tt — TOLSTOI FORMATION OF BURK (1965) (Paleocene and Eocene)--Sandstone, conglomerate, siltstone, dark shale, coal; high percent volcanic debris; mainly non-marine

Khc — HOODOO AND CHIGNIK FORMATIONS--Hoodoo formation (Upper Cretaceous); dark shale and siltstone; deep water deposit. Chignik formation (Upper Cretaceous); sandstone, shale, conglomerate, siltstone, and coal; shallow water to non-marine

KJhs — HERENDEEN LIMESTONE AND STANIUKOVICH, NAKNEK, AND SHELIKOF FORMATIONS--Herendeen limestone (Lower Cretaceous); thin-bedded calcarenite composed of Inoceramus prisms and thin calcareous sandstone. Staniukovich Formation (Upper Jurassic and Lower Cretaceous); thin-bedded feldspathic and laumontitic sandstone. Naknek Formation (Upper Jurassic); dark siltstone and shale in upper part, light arkosic sandstone and conglomerate in lower part. Shelikof Formation (middle Jurassic); dark siltstone and shale

VOLCANIC ROCKS

Qad — ASH AND DEBRIS FLOW DEPOSITS--Volcanic ash, pumice, tuff, and breccia; includes air-fall, ash flow, and avalanche deposits; unsorted to well-sorted; poorly- to well-stratified; includes some lava flows

Qcs — CINDER AND SPATTER CONES, AND DOMES--cinders, scoria, and associated pyroclastic rock

Qv — VOLCANIC ROCKS--Andesite and dacite flows, tuff, volcanic breccia, and lahars

Tv — VOLCANIC ROCKS--Rhyolite, andesite, dacite, and basalt flows; tuff, volcanic rubble flows, and lahars; includes hypabyssal plugs and domes

Tm — MENSHIK FORMATION (Miocene or Oligocene*)--Basalt flows, volcanic rubble flows, and lahars; minor volcanogenic sedimentary rock

INTRUSIVE ROCKS

Ti — INTRUSIVE ROCKS--Quartz diorite, diorite, and gabbro; medium- to coarse-grained; mainly small plutons

Tpd — GRANODIORITE--Semidi Islands pluton; medium- to coarse-grained; hornblende- and biotite-bearing

* Potassium-argon and fossil data gathered after the publication of the geologic map (Detterman, Miller, Yount, and Wilson, 1979) used as the base for this map indicate that the age of the Menshik Formation is Eocene and Oligocene (Detterman and others, 1981).

GEOLOGIC MAP SYMBOLS

- Contact--Dotted where concealed
- Fault--Dashed where approximately located, dotted where concealed; queried where probable. U, upthrown side; D, downthrown side. Arrows indicate relative lateral movement
- Thrust or high-angle reverse fault--Dotted where concealed; sawteeth on upper plate
- Folds--Showing trace of axial plane; dashed where approximately located; dotted where concealed. Arrow indicates direction of plunge
- Anticline
- Syncline
- Volcanic crater
- Volcanic vent or cinder cone
- Hornfels
- Alteration
- Dikes and sills
- Exploratory drill hole
- Hot spring
- Native Corporation boundary

EXPLANATION FOR AEROMAGNETIC INTERPRETATION

- Qv — Anomalies over Holocene or Pleistocene volcanic complexes, small intrusive bodies, and ash and debris flows
- Qvc — Anomalies over Quaternary cones, plugs, and rocks
- Qaf — Positive anomalies over Quaternary lava flows
- Qi — Anomalies over Quaternary intrusive rocks
- QTv — Anomalies over Quaternary and(or) Tertiary volcanic rocks, undivided, and small intrusive bodies
- QTvb — Anomalies over shallow but buried Quaternary and(or) Tertiary volcanic volcanic rocks, undivided
- Tv — Anomalies over Tertiary volcanic complexes
- Tvi — Anomalies over Tertiary volcanic-intrusive complexes
- Tvib — Anomalies interpreted to overlie buried Tertiary volcanic-intrusive complexes
- Ti — Anomalies over Tertiary intrusive bodies and local volcanic rocks
- Tib — Anomalies interpreted to overlie buried Tertiary intrusive bodies and local volcanic rocks
- dmb — Anomalies over "deep" magnetic basement (2 km or more beneath flight elevation)
- dpv — Anomalies over deeply buried plutonic or volcanic rocks
- Tvi + Tvib — Anomalies caused by more than one rock unit
- 31 — Approximate boundary around anomalies over major volcanic-plutonic complexes. Number refers to text discussion
- 15 — Approximate boundary of other numbered areas discussed in text
- P,TRM — Approximate boundary of closed aeromagnetic low. P, polarization low, T, "topographic" anomaly, and RM, area of possible reversed remanent magnetization
- Approximate boundary of local positive anomalies over Quaternary volcanic complexes
- A — Approximate boundary of area of suspected alteration
- Cm — Center of mineralization identified by Cox (1981)
- Inferred aeromagnetic lineament

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