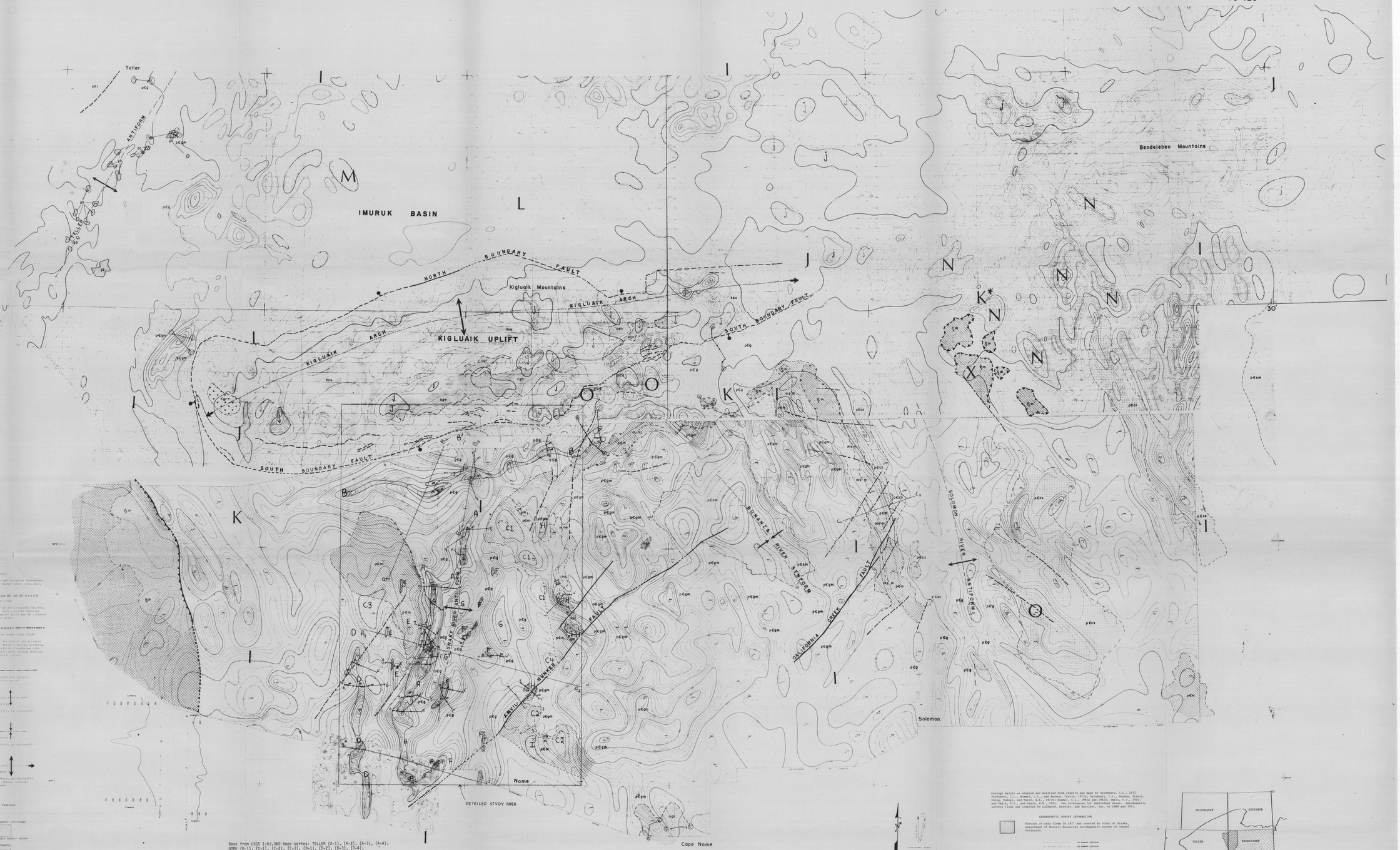
OPEN FILE MAP
76-425

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY



Base from USGS 1:63,360 topo series: TELLER (A-1), (A-2), (A-3), (A-4); NOME (B-1), (C-1), (C-2), (C-3), (D-1), (D-2), (D-3), (D-4); BENDELEBEN, (A-4), (A-5), (A-6); SOLOMON, (B-6), (C-4), (C-5), (C-6), (D-4), (D-5), (D-6), ALASKA. 1950.
Compiled Menlo Park Base Map Unit. (2-73) (8-29)

Index map of Alaska showing location of area.

CONTOUR INTERVAL 50 FEET
Dotted or dashed lines represent 25-foot contours
Datum is mean sea level

MAP SHOWING SELECTED GEOLOGIC AND AEROMAGNETIC FEATURES IN SOUTHWEST SEWARD PENINSULA, WEST-CENTRAL ALASKA

By
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1976

EXPLANATION

Geological Features

(Surficial deposits not shown.)

Sedimentary, metasedimentary, and metavolcanic-metavolcanic-clastic rocks (listed in provisional superposition order)

M — Marble

Possibly mainly or entirely allochthonous; westernmost occurrence is profoundly deformed. (cross-hatched where extrapolated under surficial deposits

pCl | **pCsm** — Limestone/ochistose marble

pCl, buff-weathering limestone; single occurrence in northwest corner of map area as mapped by Sainsbury, C.L., 1972

pCsm, buff-weathering ochistose marble; metamorphosed equivalent of pCl

pCqm — Crossmitan and marble

Predominantly quartz and feldspathic chlorite schist with subordinate marble, quartzite, and graphitic schist. Symbol shown only where unit has been mapped)

pCm — Marble

m/m, locally mapped contact between lower, predominantly marble and upper, interbedded marble and schist members; cross-hatched where extrapolated under surficial deposits

pCcs — Cosabopaq schist

Feldspathic chlorite schist; probable metavolcanic and metasedimentaclastic rocks with interlayered marble and other metasedimentary rocks. (Shown mainly as first mapped and named in eastern part of area by Mertie, J.B., 1919; and Smith, P.S. and Eakin, H.M., 1911)

pCg — Graphitic schist and marble

Predominantly graphitic quartz and feldspathic chlorite-muscovite schist with minor graphitic marble and quartzite. (Symbol shown only where unit has been mapped)

kcu — Kigluaik complex undivided

Comprises mainly quartzite, quartz and quartz-feldspar biotite schist, calcsilicate rocks and marble, orthogneiss, and minor granitic and mafic dikes and sills

gn — Ignemia and metaigneous rocks

Granite

Single body shown at west end of Kigluaik Mountains as mapped by Sainsbury, C.L., Smith, P.S., and Kachadoorian, R., 1957

gb | **mgb** — Gabbro/metagabbro

gb, gabbro bodies as mapped in northwestern part of area by Sainsbury, C.L., 1972

mgb, single largest and best exposed of many metamafic bodies in central part of area as mapped by Hummel, C.L., 1967a, 1967b

ogn — Orthogneiss

Orthogneiss bodies as mapped in Kigluaik Mountains by Hummel, C.L., 1967b, and as mapped in Cape Nome by West, W.S., and Natalie, J.J., 1951

Contact

Long-dashed where location and character determined precisionally, and short-dashed where concealed.

Thrust fault

Hashed where approximately or provisionally located, dotted where concealed. Open triangle indicates overlying or footwall block may be a thrust fault. Arrowheads on upper plate.

Right-angle normal or strike-slip fault

Hashed where provisionally detected and located, dotted where concealed. Arrows show relative movement for dip and hill indicate conditions (dip). Alternating long and double short dashes indicate fault located by aeromagnetic surveys

Fault or lineament from aerial photographs. Not checked or identified on ground

Showing trace of axial surface, approximately determined and located

Showing trace of axial surface, provisionally determined and located

Showing trace of axial surface, provisionally determined and located. Arrows indicate direction of plunge of axis

Magnetic Features

Inferred Magnetic Lithology

Highly magnetic beds/rocks

Primarily metasediments

Rocks with intermediate magnetization

Those labeled F are more magnetic than those labeled E

Highly magnetic rock

Probably in pod-like bodies; probably felsic metasediments

Ground magnetic traverse

Dots indicate rock sample sites

Aeromagnetic model profile

Aeromagnetic feature discussed in text

Geology mainly as adapted and modified from reports and maps by Sainsbury, C.L., 1972 Sainsbury, C.L., Hummel, C.L., and Hudson, Travis, 1972a; Sainsbury, C.L., Hudson, Travis, Swing, Rodney, and Marsh, G.A., 1972b; Hummel, C.L., 1967a and 1967b; Smith, P.S., 1910; and Smith, P.S., and Eakin, H.M., 1911. See references for individual areas. Aeromagnetic surveys flown and compiled by Lockwood, Kneebone, and Bartlett, Inc. in 1968 and 1971.

AEROMAGNETIC SURVEY INFORMATION

Portion of area flown in 1971 and covered by State of Alaska, Department of Natural Resources aeromagnetic survey of Seward Peninsula.

10 GAMMA CONTOUR
20 GAMMA CONTOUR
50 GAMMA CONTOUR
100 GAMMA CONTOUR
MAGNETIC LOW

FLIGHT LINE AND DIRECTION

FLIGHT LINE SPACING 1/4 MILE
FLIGHT ELEVATION MAINTAINED NEAR GROUND
BELOW, MOUNTAINS FLOWN ONLY CLOSE TO
MAGNETIC FIELD REMOVED THE 11-YEAR WAVELENGTH
APPROXIMATELY U.S. COMMERCIAL, NOTE
APPROXIMATE FIELD WELL-DEFINED, 1 GAMMA

Portion of area flown in 1968 and released as U.S. Geological Survey open-file report in 1969. Cross-hatched area indicates portion of area flown by Hudson, Gordon E. and Sainsbury, C.L., 1974. See reference cited.

MAGNETIC CONTOURS Showing total intensity magnetic field of the earth in gamma or nanotesla units. Contour interval 50 gammas. Contours represent areas of lower magnetic intensity. Contour interval 25 gammas. Estimated total intensity of field 55,000 gammas.

LOCATION OF RECORDED MAXIMUM OR MINIMUM (MAGNETIC) WITHIN FLIGHT LINES OF 1/4 MILE OR LESS

FLIGHT PATH Showing location and spacing of data. Figure of 2,500 feet barometric elevation.

H — HELICOPTER-BORNE MAGNETIC SURVEY — Small area west of Nome flown by helicopter 250 feet above sea level. Offshore navigation by Doppler radar.

1974, APPROXIMATE MAGNETIC DECLINATION AT CENTER OF MAP AREA IS 17° EAST

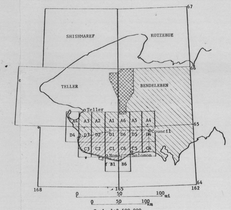

Figure 2 – Map of Seward Peninsula, Alaska showing areas covered by aeromagnetic surveys in 1968 and 1971. Portion of peninsula covered by this map indicated by wide-on-inch rectangle. Quadrangles used as base maps for 1:125,000 scale manuscript.

This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey standards and nomenclature.