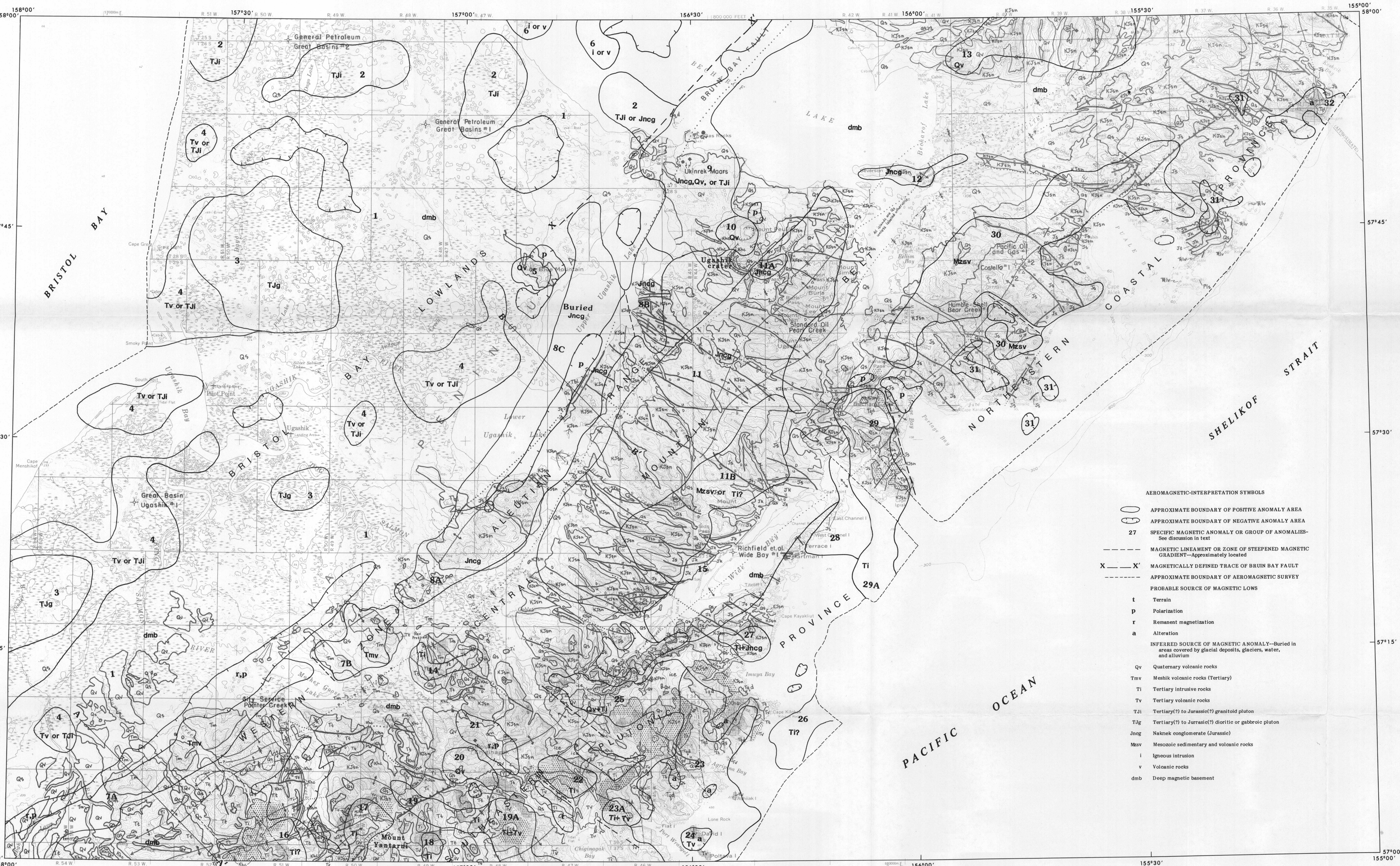
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

FOLIO OF UGASHIK, BRISTOL BAY, AND PART OF KARLUK QUADRANGLES, ALASKA
MISCELLANEOUS FIELD STUDIES
MAP MF-1539-D
SHEET 2 OF 2



Base from U.S. Geological Survey, 1963
Universal Transverse Mercator projection

SCALE 1:250 000

5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 KILOMETERS

CONTOUR INTERVAL 200 FEET
DOTTED LINES REPRESENT 100-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Geology from Detterman and others (1983)

Explanatory pamphlet accompanies map

AEROMAGNETIC-INTERPRETATION SYMBOLS

APPROXIMATE BOUNDARY OF POSITIVE ANOMALY AREA

APPROXIMATE BOUNDARY OF NEGATIVE ANOMALY AREA

27 SPECIFIC MAGNETIC ANOMALY OR GROUP OF ANOMALIES-See discussion in text

MAGNETIC LINEAMENT OR ZONE OF STEEPENED MAGNETIC GRADIENT--Approximately located

X — — X' MAGNETICALLY DEFINED TRACE OF BRUIN BAY FAULT

APPROXIMATE BOUNDARY OF AEROMAGNETIC SURVEY

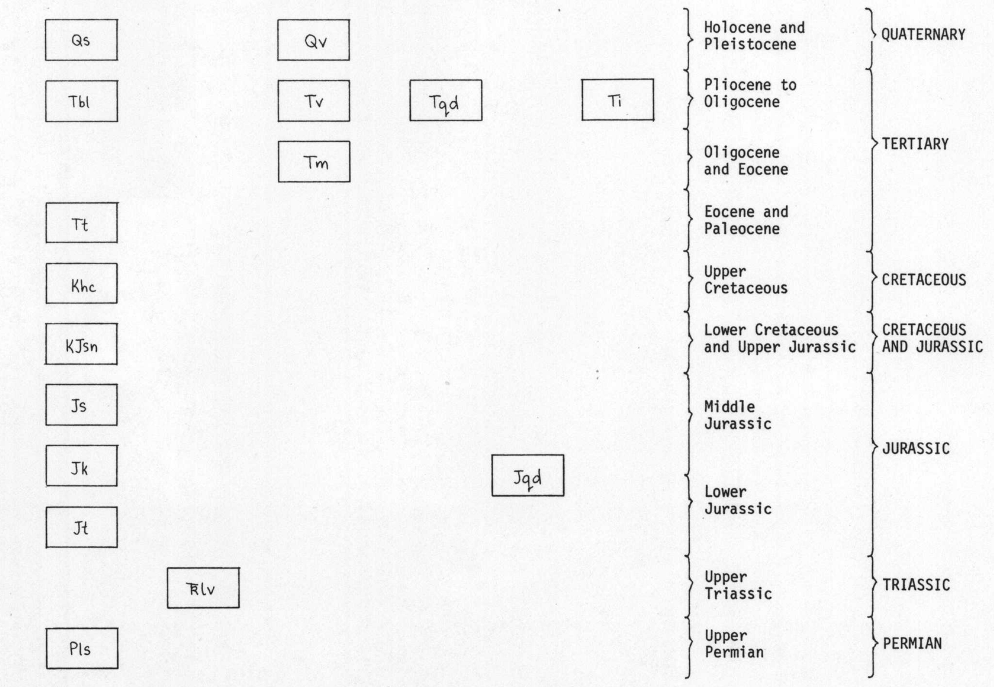
PROBABLE SOURCE OF MAGNETIC LOWS

- t Terrain
- p Polarization
- r Remanent magnetization
- a Alteration

INFERRED SOURCE OF MAGNETIC ANOMALY--Buried in areas covered by glacial deposits, glaciers, water, and alluvium

- Qv Quaternary volcanic rocks
- Tmv Meshik volcanic rocks (Tertiary)
- Ti Tertiary intrusive rocks
- Tv Tertiary volcanic rocks
- TJi Tertiary(?) to Jurassic(?) granitoid pluton
- TJg Tertiary(?) to Jurrasic(?) dioritic or gabbroic pluton
- Jncg Naknek conglomerate (Jurassic)
- Mzsv Mesozoic sedimentary and volcanic rocks
- i Igneous intrusion
- v Volcanic rocks
- dmb Deep magnetic basement

CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

SURFICIAL DEPOSITS AND SEDIMENTARY ROCKS

Qs SURFICIAL DEPOSITS (HOLOCENE AND PLEISTOCENE) - Unconsolidated alluvium, alluvial fans, and glacial, marine, lake, swamp, eolian, and landslide deposits; mainly silt, sand, gravel, pumice, and rock fragments

Tbl BEAR LAKE FORMATION (MIOCENE) - Sandstone, siltstone, shale, minor coal, and conglomerate; nonmarine

Tt TOLSTOI FORMATION (EOCENE AND PALEOCENE) - Sandstone, conglomerate, siltstone, shale, coal, and tuff; dominantly volcaniclastic and nonmarine

Khc HOODOO AND CHIGNIK FORMATIONS, UNDIVIDED (UPPER CRETACEOUS) - Hoodoo Formation: dark rhythmically-bedded siltstone and shale, minor thin sandstone; deep-water marine. Chignik Formation: sandstone, conglomerate, siltstone, and shale; mainly shallow marine

KJsn STANIUKOVICH AND NAKNEK FORMATIONS, UNDIVIDED (LOWER CRETACEOUS AND UPPER JURASSIC) - Staniukovich Formation of Late Jurassic and Early Cretaceous age: thin-bedded feldspathic sandstone, commonly laumontitic; minor siltstone and shale. Naknek Formation of Late Jurassic age: thin-bedded sandstone, siltstone, and dark shale with limestone concretions in upper part. Massive arkosic sandstone and conglomerate in lower part; abundant granitic- and metamorphic-rock clasts in conglomerate. Upper part marine; lower part nonmarine fluvial

Js SHELIKOF FORMATION (MIDDLE JURASSIC) - Dark siltstone and shale with limestone concretions, sandstone, and conglomerate; nonmarine to near-shore marine, and deep-water turbidite

Jk KIALAGVIK FORMATION (MIDDLE AND LOWER JURASSIC) - Sandstone, siltstone, mudstone, and shale; mainly shallow water marine

Jt TALKEETNA FORMATION (LOWER JURASSIC) - Tuffaceous sandstone, siltstone, and limestone; minor bedded tuff

Pls LIMESTONE (UPPER PERMIAN) - Light-gray massive crystalline limestone

SEDIMENTARY AND VOLCANIC ROCKS

₸lv LIMESTONE AND VOLCANIC ROCKS (UPPER TRIASSIC) - Light- to dark-gray thin-bedded to massive limestone, limestone conglomerate, and basalt

VOLCANIC ROCKS

Qv VOLCANIC ROCKS (HOLOCENE AND PLEISTOCENE) - Block and ash flows, debris flows, volcanic mud flows, cinder cones, and andesitic and dacitic lava flows; includes minor hypabyssal rocks

Tv VOLCANIC ROCKS (PLIOCENE TO OLIGOCENE) - Basalt, andesite, and dacite lava flows, volcanic breccia, and rubble flows; locally includes hypabyssal rocks

Tm MESHIK FORMATION (OLIGOCENE AND EOCENE) - Basalt flows, volcanic rubble flows, and lahars; locally minor volcanogenic sedimentary rocks

INTRUSIVE ROCKS

Tqd QUARTZ DIORITE (PLIOCENE TO OLIGOCENE) - Agripina Bay pluton; hornblende-biotite and pyroxene-biotite quartz diorite; medium to coarse grained

Ti INTRUSIVE ROCKS (PLIOCENE TO OLIGOCENE) - Diorite, quartz diorite, hypabyssal andesite and dacite

Jqd QUARTZ DIORITE (MIDDLE AND LOWER JURASSIC) - Medium to coarse grained, hornblende and biotite bearing; part of the Alaska-Aleutian Range batholith

GEOLOGIC MAP SYMBOLS

CONTACT--Dotted where concealed

FAULT--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; dotted where concealed; queried where probable. Arrow indicates direction of plunge

- Anticline
- Syncline

LINEAMENT

VOLCANIC CRATER

VOLCANIC VENT OR CINDER CONE (OTHER THAN WITHIN CRATERS)

HORNFELS

ALTERATION--Includes sericitic alteration and silicification

EXPLORATORY DRILL HOLE

OIL SEEPS

HOT SPRING

COLD SPRING

GAS SEEP--Carbon dioxide

GEOLOGIC INTERPRETATION

MAPS SHOWING AEROMAGNETIC SURVEY AND GEOLOGIC INTERPRETATION OF THE UGASHIK AND PART OF KARLUK QUADRANGLES, ALASKA

By

J.E. Case, R.L. Detterman, F.H. Wilson, B.A. Chuchel, and M.E. Yount

1988