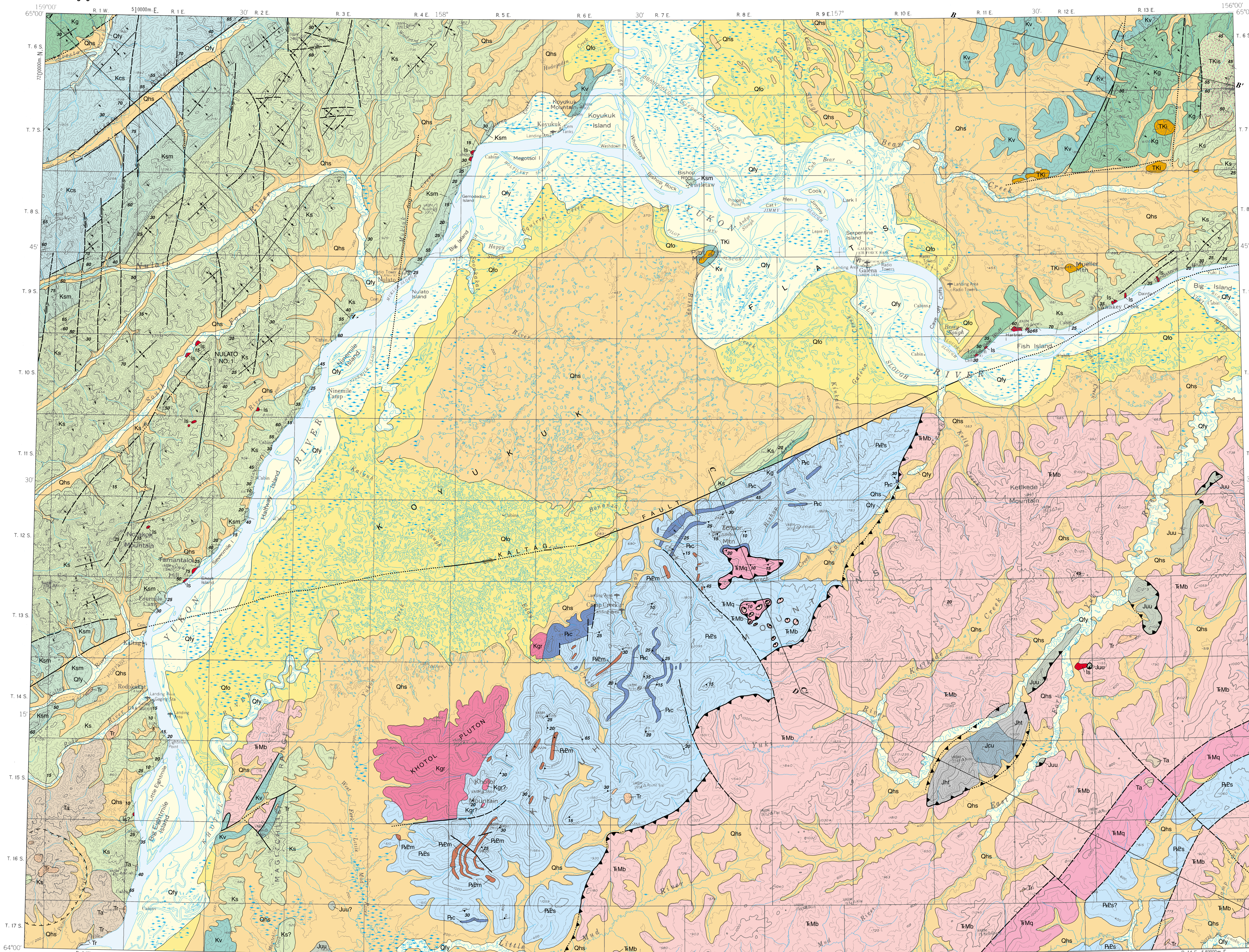
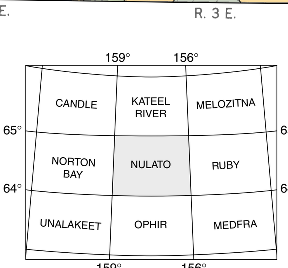
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

GEOLOGIC INVESTIGATIONS SERIES
I–2677
Pamphlet accompanies map



Base from U.S. Geological Survey, 1952
Universal Transverse Mercator projection



LOCATION OF 1:250,000 QUADRANGLES

SCALE 1:250 000
5 0 5 10 15 20 MILES
5 0 5 10 15 20 25 30 KILOMETERS
CONTOUR INTERVAL 200 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

QUADRANGLE LOCATION

INTERIOR—GEOLOGICAL SURVEY, RESTON RESTON, VA—2000

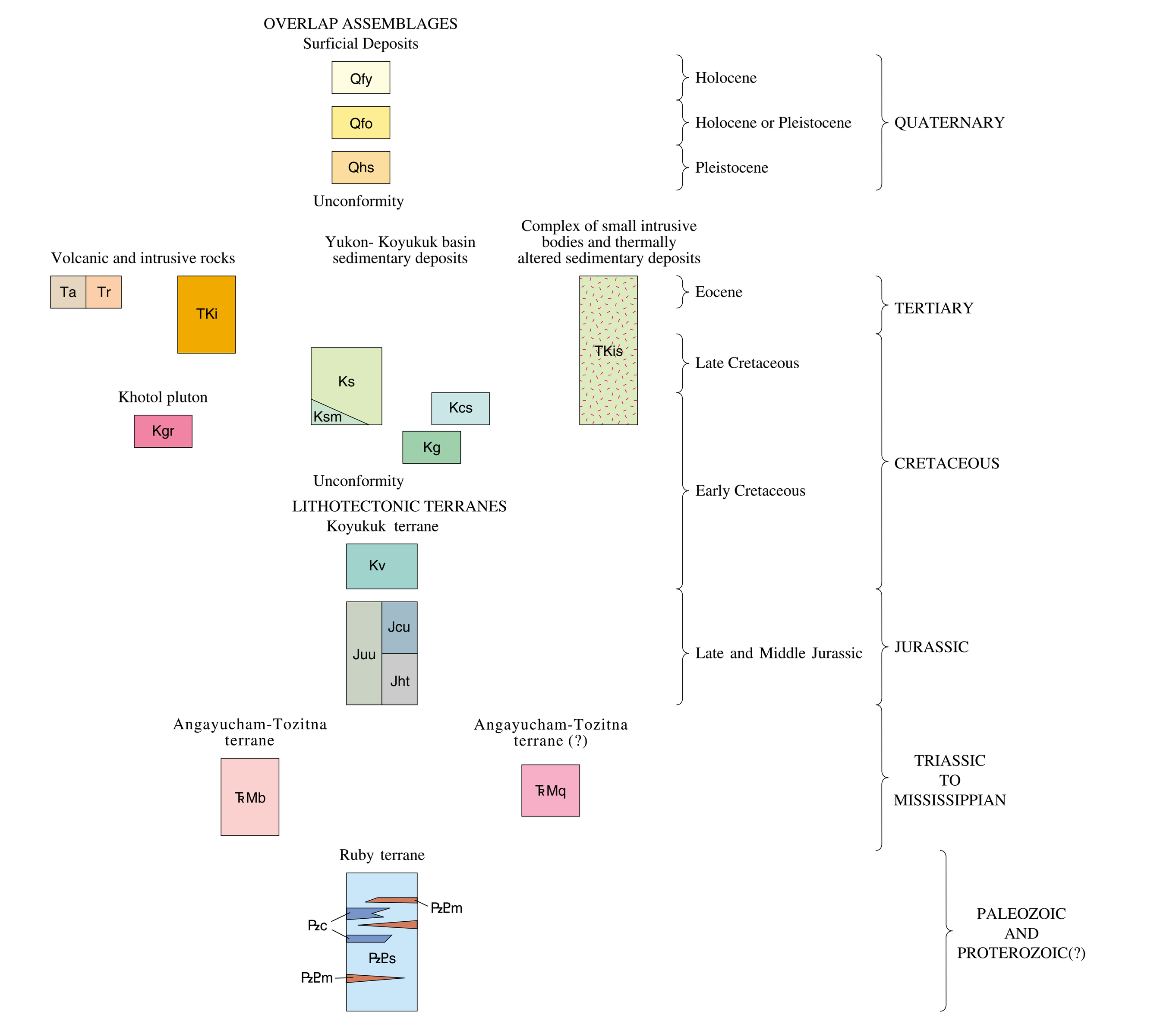
Geology mapped by W.W. Patton, Jr., 1954, 1956, 1958, 1960, 1974, 1975, 1979, 1981, 1982, 1985; E.J. Moll-Stalcup, 1979, 1981; R.S. Bickel, 1954–1956; J.M. Hoare, 1958; Bond Taber, 1958; A.R. Tagg, 1960; R.M. Chapman, 1974, 1975; Christine Carlson, R.A. Loney, and G.R. Himmelberg, 1982; S.E. Box, 1985. Field mapping in south-central part of quadrangle supplemented by field data from Anaconda Minerals Company, 1981–1985

Edited by Jane S. Ciener; cartography by Darlene A. Casebier and Hugh F. Thomas

Manuscript approved for publication December 22, 1998

CORRELATION OF MAP UNITS

[See DESCRIPTION OF MAP UNITS in accompanying pamphlet for specific age assignments]



LIST OF MAP UNITS

[See DESCRIPTION OF MAP UNITS in accompanying pamphlet for detailed unit descriptions]

OVERLAP ASSEMBLAGES

Surficial deposits

- Qfy — **Younger flood-plain deposits (Holocene)**
- Qfo — **Older flood-plain deposits (Holocene or Pleistocene)**
- Qhs — **High-terrace and slope deposits (Pleistocene)**

Volcanic and intrusive rocks

- Ta — **Andesite and basalt (Eocene)**
- Tr — **Rhyolite and dacite (Eocene)**
- TKi — **Shallow intrusive rocks of silicic and intermediate composition (early Tertiary and Late Cretaceous)**

Complex of small intrusive bodies and thermally altered sedimentary deposits

- TKis — **Shallow intrusive rocks of silicic and intermediate composition (early Tertiary and Late Cretaceous), marine and nonmarine sandstone, shale, and conglomerate deltaic deposits (Late and Early Cretaceous), and volcaniclastic graywacke and mudstone turbidite deposits (Early Cretaceous), undivided**

Yukon-Koyukuk basin sedimentary deposits

- Ks — **Nonmarine and marine sandstone, shale, and conglomerate deltaic deposits, undivided (Late and Early Cretaceous)**
- Ksm — **Marine deltaic deposits (Early Cretaceous)**
- Kcs — **Calcareous sandstone, siltstone, and shale turbidite deposits (Early Cretaceous)**
- Kg — **Volcaniclastic graywacke and mudstone turbidite deposits (Early Cretaceous)**

Khotol pluton

- Kgr — **Granite (Early Cretaceous)**

LITHOTECTONIC TERRANES

Koyukuk terrane

- Kv — **Andesitic volcanic rocks (Early Cretaceous)**
- Juu — **Ultramafic-mafic complexes, undivided (Late and Middle Jurassic)**
- Jcu — **Cumulate ultramafic rocks (Late and Middle Jurassic)**
- Jht — **Harzburgite tectonite (Late and Middle Jurassic)**

Angayucham-Tozitna terrane

- TrMb — **Altered basalt, gabbro, and chert (Triassic to Mississippian)**

Angayucham-Tozitna terrane(?)

- TrMq — **Quartzite, phyllite, and limestone (Triassic? to Mississippian?)**

Ruby terrane

- Pzc — **Carbonate rocks (Early Paleozoic)**
- PzPs — **Schist and quartzite (Paleozoic and Proterozoic?)**
- PzPm — **Metabasite (Paleozoic and Proterozoic?)**

Contact

Fault—Dashed where inferred or approximately located; dotted where concealed. Half arrows indicate direction of relative movement

Thrust fault—Saw teeth on upper plate. Dotted where concealed

Folds

Anticline

Syncline

Strike and dip of beds

Inclined

Vertical

Overturned

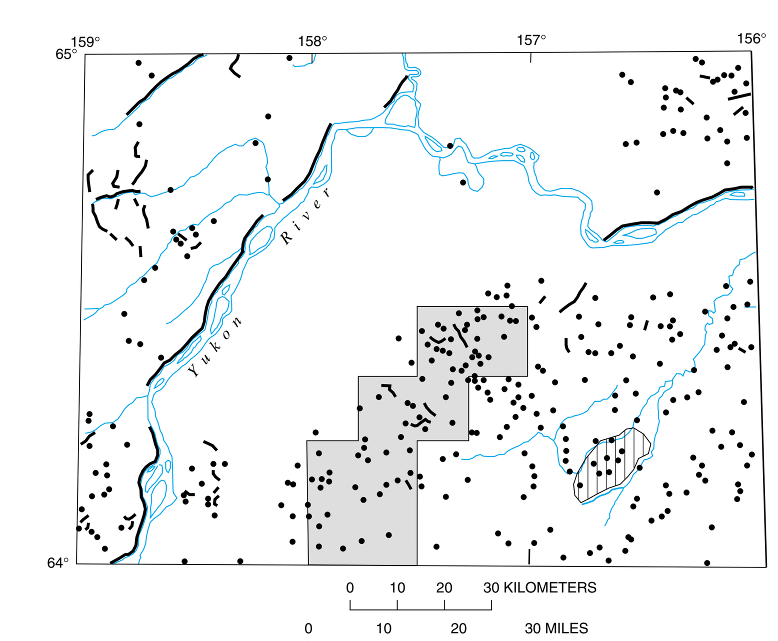
Based on photo-interpretation or distant observation—Direction only

Strike and dip of foliation

Outline of volcanic depression

ls **Landslide deposit**

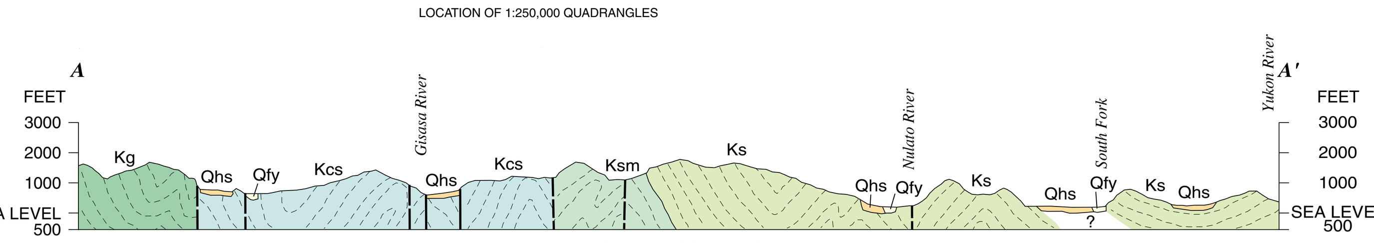
Dry hole

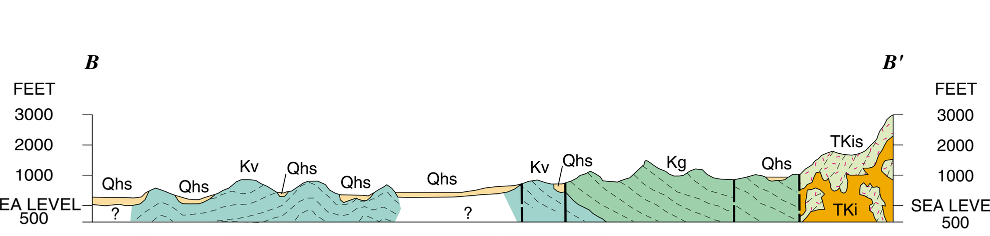


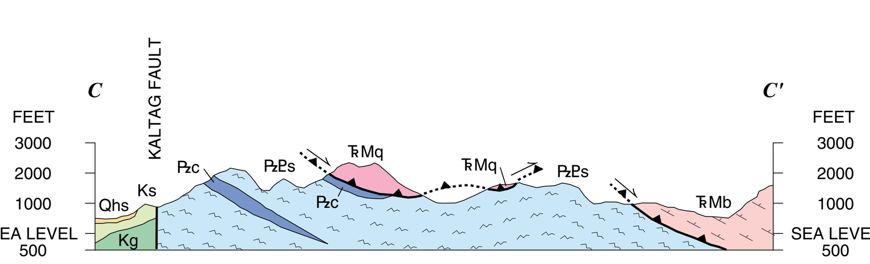
Map of the Nulato quadrangle showing location of field observation points (dots) and continuous foot traverses (lines). Geology extended between field stations by aerial reconnaissance and by interpretation of aerial photographs. Surficial deposits mapped almost entirely from aerial photographs.

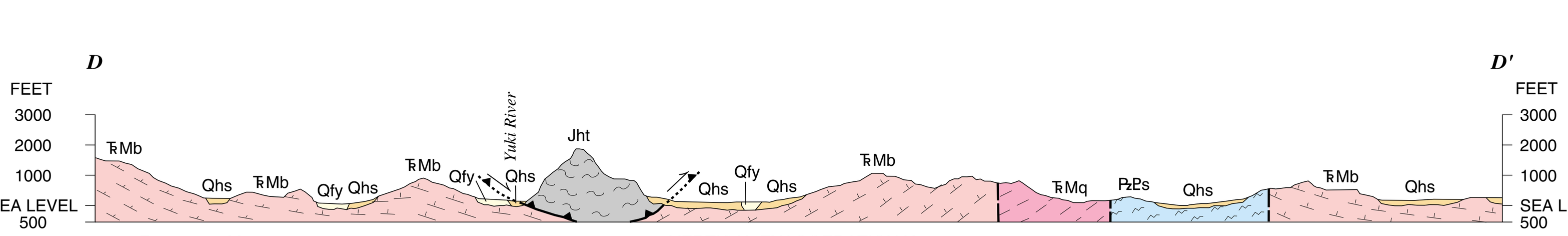
Supplementary data used in geologic map compilation:

- unpublished field maps, North Pacific Mining Corporation, 1993
- Loney and Himmelberg, 1984









GEOLOGIC MAP OF THE NULATO QUADRANGLE, WEST-CENTRAL ALASKA

By
W.W. Patton, Jr. and E.J. Moll-Stalcup

2000

ISBN 0-607-93968-0

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For sale by U.S. Geological Survey, Information Services, Box 25286, Federal Center, CO 80225, 1–888–ASK–USGS

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