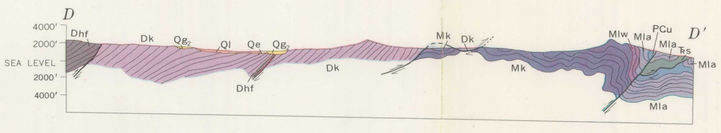
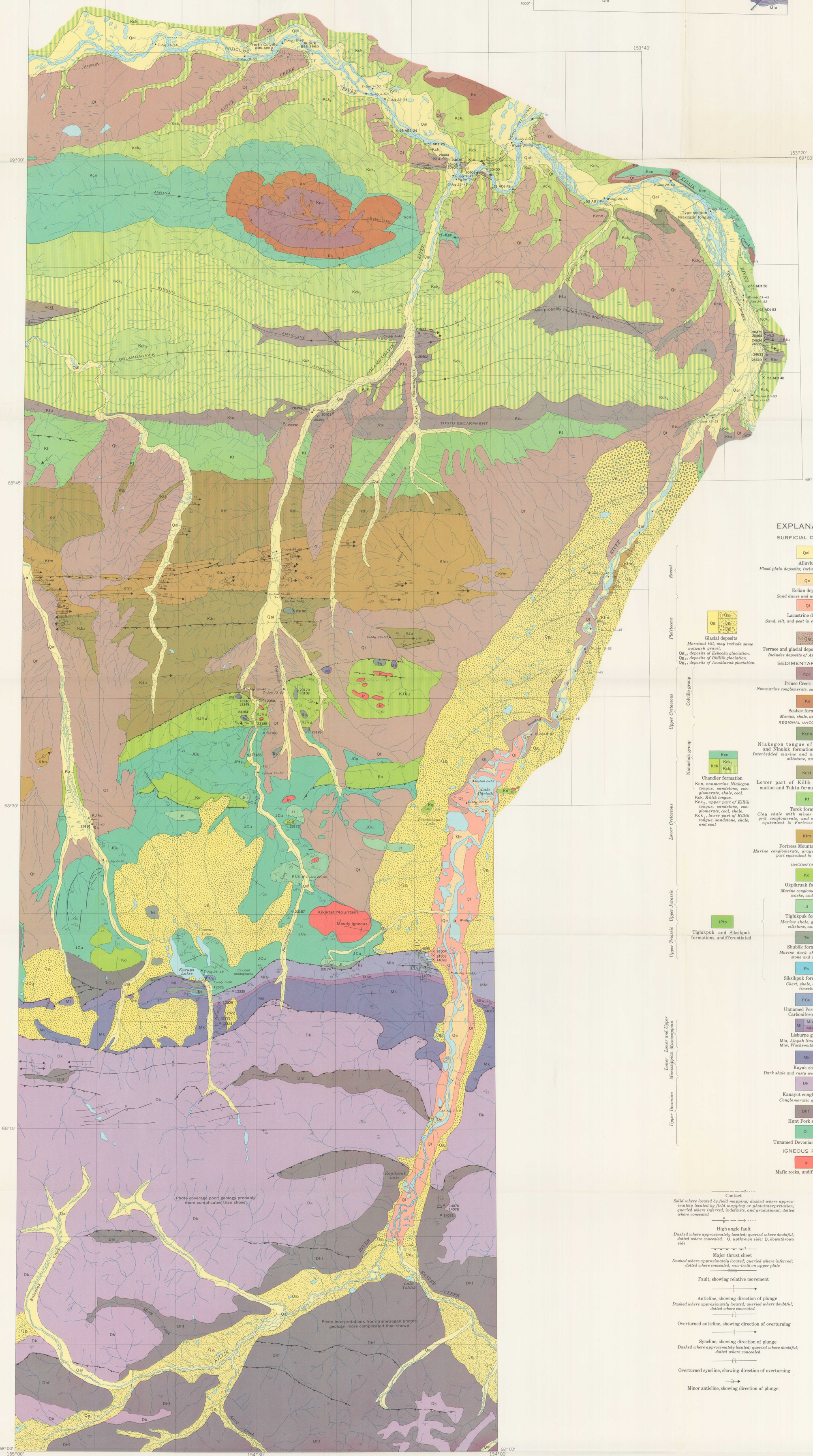
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PROFESSONAL PAPER 303
PLATE 43 (EAST HALF)



155°00′ 154°30′ 154°00′ 153°40′ 153°20′
69°10′ 69°00′ 68°45′ 68°30′ 68°15′ 68°00′



EXPLANATION

SURFICIAL DEPOSITS

Qal — Alluvium
Flood plain deposits; includes low river terraces

Qe — Eolian deposits
Sand dunes and windblown silt

Ql — Lacustrine deposits
Sand, silt, and peat in extinct glacial lake

Qg — Glacial deposits
Morainal till, may include some outwash gravel.
Qg_3, *deposits of Echooka glaciation.*
Qg_2, *deposits of Ikpillik glaciation.*
Qg_1, *deposits of Anaktuvuk glaciation.*

Qtg — Terrace and glacial deposits, undifferentiated
Includes deposits of Anaktuvuk glaciation

Qt — Terrace deposits
High-level terrace gravel

Recent; Pleistocene — QUATERNARY

SEDIMENTARY ROCKS

Kpc — Prince Creek formation
Nonmarine conglomerate, sandstone, shale, and coal

Ks — Seabee formation
Marine, shale, and siltstone
REGIONAL UNCONFORMITY

Kcnn — Niakogon tongue of Chandler formation and Ninuluk formation undifferentiated
Interbedded marine and nonmarine sandstone, siltstone, and shale

Kn — Ninuluk formation
Marine sandstone, conglomerate, shale

Kcn, Kck, Kck_2, Kck_1 — Chandler formation
Kcn, *nonmarine Niakogon tongue, sandstone, conglomerate, shale, coal.*
Kck, *Killik tongue.*
Kck_2, *upper part of Killik tongue, sandstone, conglomerate, coal, shale.*
Kck_1, *lower part of Killik tongue, sandstone, shale, and coal*

Kckt — Lower part of Killik tongue of Chandler formation and Tuktu formation, undifferentiated

Ktu — Tuktu formation
Marine green sandstone, siltstone and shale

Kt — Torok formation
Clay shale with minor graywacke sandstone, grit conglomerate, and siltstone; may be in part equivalent to Fortress Mountain formation

Ktf — Torok formation and Fortress Mountain formations, undifferentiated

Kfm — Fortress Mountain formation
Marine conglomerate, graywacke, and shale; may be in part equivalent to Torok formation

Upper Cretaceous; Colville group; Nanushuk group; Lower Cretaceous — CRETACEOUS

UNCONFORMITY

Ko — Okpikruak formation
Marine conglomerate, graywacke, and shale

KJu — Fortress Mountain, Okpikruak, and Tiglukpuk formations, undifferentiated

Jt — Tiglukpuk formation
Marine shale, graywacke, siltstone, and chert

JPts — Tiglukpuk and Siksikpuk formations, undifferentiated

JTu — Tiglukpuk and Shublik formations, undifferentiated

Upper Jurassic; Upper Triassic — JURASSIC; TRIASSIC

Ts — Shublik formation
Marine dark shale, limestone and chert

Ps — Siksikpuk formation
Chert, shale, and some limestone

PCsu — Siksikpuk formation and unnamed Permian and Carboniferous unit, undifferentiated
Red and green shale, chert

PCu — Unnamed Permian and Carboniferous unit

PERMIAN AND PENNSYLVANIAN — CARBONIFEROUS

Ml, Mla, Mlw — Lisburne group
Mla, *Alapah limestone.*
Mlw, *Wachsmuth limestone*

Mk — Kayak shale
Dark shale and rusty weathering limestone

Lower Mississippian; Lower and Upper Mississippian — MISSISSIPPIAN

Dk — Kanayut conglomerate
Conglomeratic quartzite

Dhf — Hunt Fork shale

Dl — Unnamed Devonian limestone

Upper Devonian — DEVONIAN

IGNEOUS ROCKS

ir — Mafic rocks, undifferentiated

AGE UNKNOWN

KCu, JCu, TrCu — CARBONIFEROUS TO CRETACEOUS
KJTu, Okpikruak, Tiglukpuk, and Shublik formations, undifferentiated.
KCu, Okpikruak, Tiglukpuk, Shublik, Siksikpuk formations and unnamed Permian and Carboniferous unit, undifferentiated.
JCu, Tiglukpuk, Shublik, Siksikpuk formations and unnamed Permian and Carboniferous unit, undifferentiated.
TrCu, Shublik and Siksikpuk formations and unnamed Permian and Carboniferous unit, undifferentiated

Contact
Solid where located by field mapping; dashed where approximately located by field mapping or photointerpretation; queried where inferred, indefinite, and gradational; dotted where concealed

High angle fault
Dashed where approximately located; queried where doubtful; dotted where concealed. U, upthrown side; D, downthrown side

Major thrust sheet
Dashed where approximately located; queried where inferred; dotted where concealed; saw-teeth on upper plate

Fault, showing relative movement

Anticline, showing direction of plunge
Dashed where approximately located; queried where doubtful; dotted where concealed

Overturned anticline, showing direction of overturning

Syncline, showing direction of plunge
Dashed where approximately located; queried where doubtful; dotted where concealed

Overturned syncline, showing direction of overturning

Minor anticline, showing direction of plunge

Minor syncline, showing direction of plunge

Fold axis, showing direction of plunge

Strike and dip of beds
Field observation

Strike and dip of overturned beds

Strike of vertical beds

Horizontal beds

Strike and dip of beds
Photo interpretation

Well defined lateral, recessional, or end moraine

Fossiliferous locality

Campsite

APPROXIMATE MEAN DECLINATION, 1961

Base map compiled from trimetrogon photography by the Topographic Division, U. S. Geological Survey, 1947–50

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—61100

Geology compiled by R. M. Chapman, R. L. Detterman, M. D. Mangus, R. S. Bickel, G. D. Eberlein, C. E. Kirschner, A. H. Lachenbruch, M. C. Lachenbruch, W. W. Patton, Jr., C. D. Reynolds, Karl Stefansson, R. E. Thurrell, and James Zumberge. Compiled 1945–53

GEOLOGIC MAP AND STRUCTURE SECTIONS OF THE KILLIK-ETIVLUK RIVERS REGION, ALASKA

SCALE 1:125 000

2 1 0 2 4 6 MILES

DATUM IS MEAN SEA LEVEL