

EXPLANATION

Qal

Alluvium

Qtl

Low terrace deposits

Qth

High terrace deposits

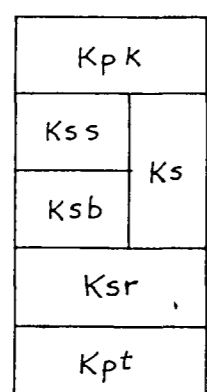
Predominantly alluvial gravel where exposed. Upper part probably windblown silt

Qg

Gubik Formation

Yellow, fine- to medium-grained marine sand, generally with basal gravel; intertongues(?) with nonmarine sand, silt and peat. Fossiliferous gray sand and blue clay beneath the gravel north of latitude 70° N. As much as 150 feet thick. Fossiliferous lowest beds may be late Pliocene in age

UNCONFORMITY



Prince Creek Formation (nonmarine) and Schrader Bluff Formation (marine)

Kpk, Kogosukruk Tongue of Prince Creek Formation and upper part of Sentinel Hill Member of Schrader Bluff Formation, undifferentiated.

From top to bottom:
Upper part of Kogosukruk Tongue; fine-grained sandstone with interbedded shale, clay, silt, bentonite and coal. Poorly consolidated. Thickness more than 1,160 feet.

Upper part of Sentinel Hill Member; gray to brown bentonitic shale and clay with some sandstone and bentonite and little coal. Thickness 315 feet (south) to 371 feet (north), along lower Colville River. Lower part of Kogosukruk Tongue; generally fine-grained sandstone and conglomerate, with shale, coal and bentonite. Thickness 306 feet (south) to 109 feet (north), along lower Colville River.

Kss, lower part of Sentinel Hill Member of Schrader Bluff Formation. Shale, clay, bentonite and tuff. Weathers white, gray, yellow, red. Thickness about 300 feet at Prince Creek to about 400 feet along lower Colville River. *Inoceramus* sp.

Ksb, Barrow Trail Member of Schrader Bluff Formation. Mostly fine-grained bentonitic sandstone, with shale, siltstone, bentonite and tuff. Thickness 575 feet east of Umiat to about 800 feet at Prince Creek.

Inoceramus (*Sphenoceramus*) *patocensis* de Loriol, *Protocardia* cf. *P. borealis* Whiteaves
Ks, lower part of Sentinel Hill Member and Barrow Trail Member, undifferentiated.

Ksr, Rogers Creek Member of Schrader Bluff Formation. Poorly exposed shale. Thickness about 700 to 900 feet.

Kpt, Tuluvak Tongue of Prince Creek Formation. Fine- to medium-grained, plant-bearing sandstone and conglomerate with shale, coal, bentonite and local tuff. Thickness generally about 560 to 700 feet. Inferred thickness near Square Lake Test Well 1 about 1,200 feet. Schrader Bluff Formation, Coniacian(?), Santonian, and Campanian in age.

Prince Creek Formation, Tuluvak Tongue, Campanian in age; Kogosukruk Tongue, Campanian or younger in age

Kse

Seabee Formation (marine)

Black shale and bentonite, with limestone concretions. Some generally calcareous sandstone. Thickness northeastward from 110 feet south of Maybe Creek to 1,195 feet at Umiat and 1,185 feet at Square Lake Test Well 1.

Inoceramus labiatus (Schlotheim), *Scaphites delicatulus* Warren, *Otoscapites seabeensis* Cobban and Gryc, *Borissiakoceras ashurkoffae* Cobban and Gryc
Turonian in age

UNCONFORMITY

Kn

Ninuluk Formation (marine) and Niakogon Tongue of Chandler Formation (nonmarine), undifferentiated

Shale and fine- to medium-grained fossiliferous marine sandstone with interbedded coal and bentonite. Thins northeastward from 920 feet south of Maybe Creek to about 75 feet at Square Lake Test Well 1 and 95 feet at Umiat. *Inoceramus dunveganensis* McLearn in basal beds. Cenomanian in age

K+k

Killik Tongue of Chandler Formation (largely nonmarine)

Shale, with generally fine-grained sandstone, conglomerate of quartz and chert pebbles, coal and bentonite. Poorly exposed. Thins northeastward from 3,400 feet at Knifeblade Test Wells to about 300 feet at Umiat. Mainly Albian in age. Top beds may be Cenomanian in age

Kg

Grandstand Formation (predominantly marine)

Laterally persistent ridge-forming sandstone, mostly light gray, fine-grained in outcrop area. Minor amount shale and few thin coal beds. Thins eastward from 1,300 feet at Knifeblade Test Wells to 600-700 feet at Umiat. Albian in age

(As mapped, Chandler Formation and Grandstand Formation each contains some undifferentiated tongues of the other.)

Kt

Torok Formation

Shale and siltstone with some sandstone. Poorly exposed. Upper part probably locally equivalent to lower part of Grandstand Formation. Albian in age

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

EXPLANATION

Geologic Contact

Dashed where approximately located, short dashed where inferred, dotted where concealed

Key sandstone bed

Sandstone bed A correlates approximately with a horizon between sandstone beds 4 and 5

Scratch boundary

Fault

Dashed where approximately located, queried where doubtful, short dashed where concealed. U, upthrown side; D, downthrown side

Anticline

Showing trace of axial plane and plunge of axis. Dashed where approximately located, queried where doubtful, short dashed where concealed

Syncline

Showing trace of axial plane and plunge of axis. Dashed where approximately located, queried where doubtful, short dashed where concealed

Strike and dip of beds

Strike and dip of beds determined from aerial photographs

Horizontal beds

Oil or gas seep

Dry and abandoned test well

Abandoned gas well

Abandoned oil well

Shut-in oil well

600

Structure Contour

On the top of the Seabee Formation at and west of Umiat; on the conglomerate 60 feet above the base of the Kogosukruk Tongue of Prince Creek Formation near Gubik test wells. Dashed where approximately located

500

Seismic Structure Contour

On shallow reflectors near the base of the Killik Tongue of Chandler Formation. Dashed where approximately located

By United Geophysical Co. Inc., Party 114, 1950, 1951. Altitudes along lines 11-50 to 14-50 adjusted to 1948 Umiat datum from; Sanders, A. B., 1950, Seismograph operations, Fish Creek, Colville River, and Titaluk areas, Party 114, 1950; U.S. Geol. Survey open-file report, 6 p., 19 figs. Munns, E. J., 1951, Seismograph survey report of Colville River area, Party 114; U.S. Geol. Survey open-file report, 11 p., 14 figs.

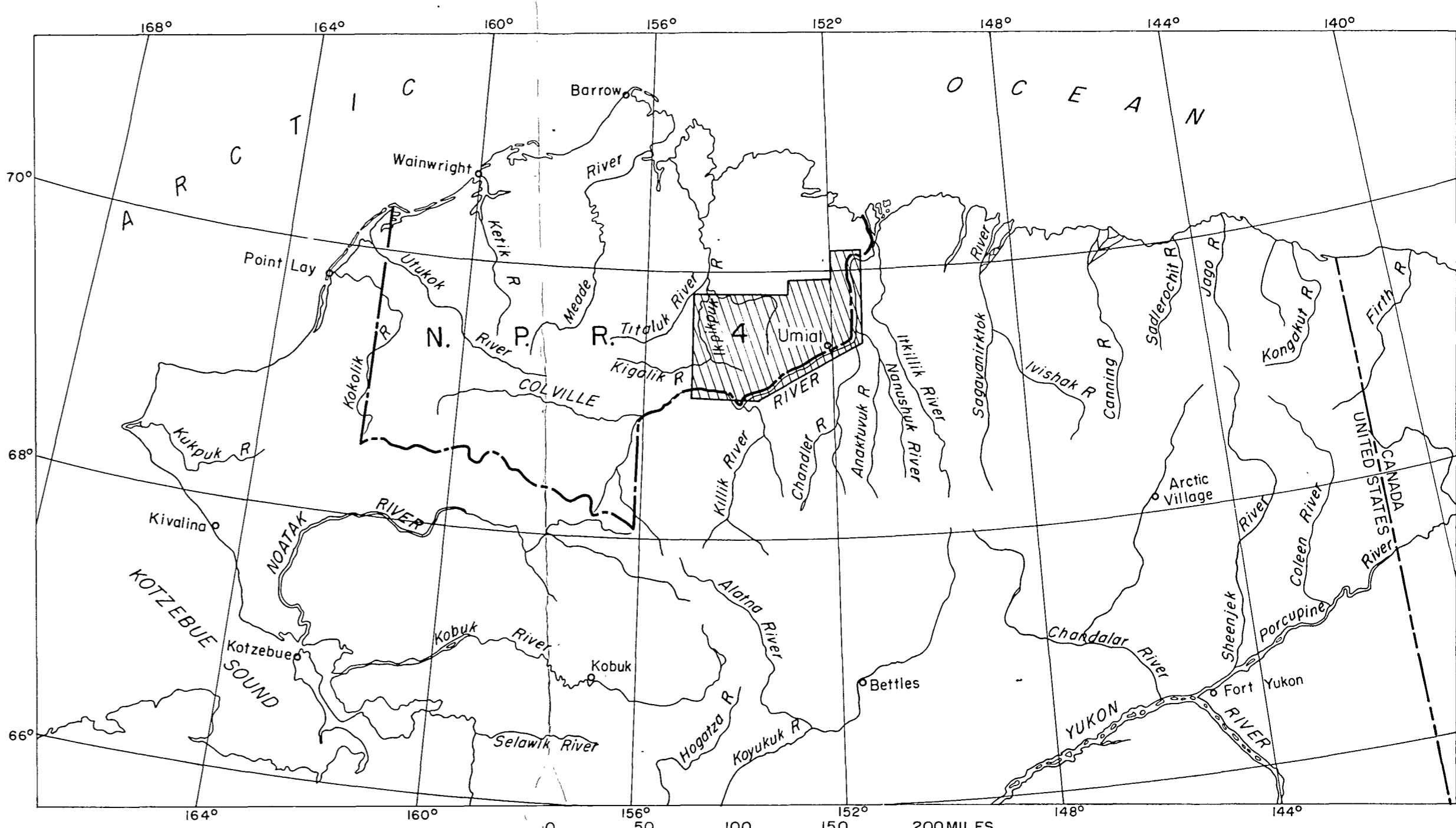
Line 29-51

Line of Seismic Traverse

By United Geophysical Co. Inc., Party 114

QUATERNARY

CRETACEOUS



INDEX MAP SHOWING LOCATION OF UMIAT-MAYBE CREEK REGION AND N.P.R. 4

PRELIMINARY GEOLOGIC MAP OF THE UMIAT-MAYBE CREEK REGION, ALASKA

By
W. P. Brosge and C. L. Whittington
1963