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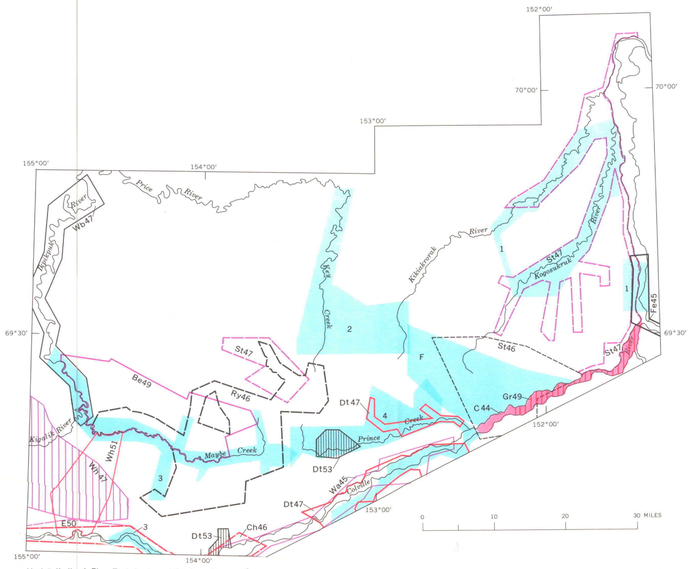
PROFESSIONAL PAPER 303-H
PLATE 52 (EAST HALF)



Umiat, Ikpikpuk River, Teshekpuk, and Harrison Bay quadrangles, Alaska Reconnaissance Topographic Series

INDEX MAP OF UMIAT-MAYBE CREEK REGION, SHOWING FIELD PARTY AREAS

EXPLANATION

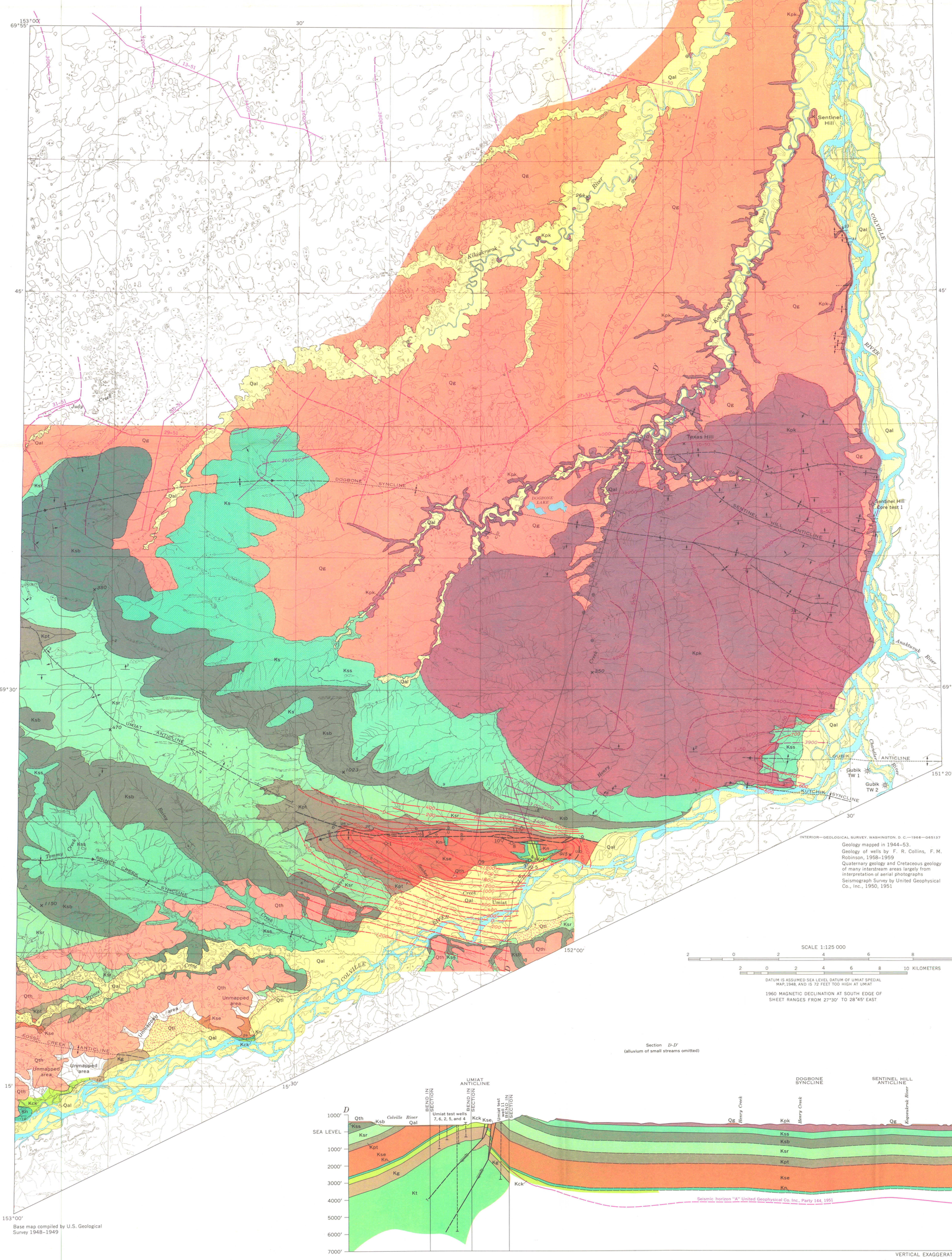
Location of areas traversed by geological field parties of the U.S. Navy and U.S. Geological Survey in the Umiat-Maybe Creek region, 1944–1953

U.S. NAVY

F Foran and Woodward, 1944
1 Rogers and McConnell, 1945
2 Paine and Wayman, 1945
3 Phillippi and Cortes, 1945
4 Kreidler and Brown, 1945

U.S. GEOLOGICAL SURVEY

C44 Coats and Gryc, 1944
Wa45 Warner and Kirschner, 1945
Fe45 Fellows, Chapman, and Bressler, 1945
Ch46 Chapman and Thurrell, 1946
Ry46 Ray and Fischer, 1946
St46 Stefansson and Whittington, 1946
Dt47 Detterman, Mathewson, and Webber, 1947
St47 Stefansson, Thurrell, and Zumberge, 1947
Wb47 Webber and Sorem, 1947
Wh47 Whittington and Troyer, 1947
Gr49 Gryc and Fischer, 1949
Be49 Brosgé and Kover, 1949
E50 Eberlein, Chapman, and Reynolds, 1950
Wh51 Whittington, 1951
Dt53 Detterman and Bickel, 1953



Base map compiled by U.S. Geological Survey 1948–1949

EXPLANATION

Recent
Alluvium — Qal
Low-level terrace deposits — Qtl
Pleistocene or Recent
High-level terrace deposits — Qth
Predominantly alluvial gravel where exposed. Upper part probably windblown silt
Pleistocene
Gubik Formation — Qg
Marine sand, yellow, fine- to medium-grained; generally with basal gravel; interlongues (?) with nonmarine sand, silt, and peat. Fossiliferous gray sand and blue clay beneath the gravel north of lat. 70°N. As much as 150 feet thick. Lowest fossiliferous beds may be late Pliocene in age
QUATERNARY

UNCONFORMITY

Upper Cretaceous — Colville Group

Kpk, Kss, Ksb, Ksr, Kpt
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 and 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 containing sandstone and little coal. Thickness 316 feet (south) to 371 feet (north) along lower Colville River
Lower part of Kogosukruk Tongue:
Generally fine-grained sandstone and conglomerate containing 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, or red. Thickness about 300 feet at Prince Creek to about 400 feet along lower Colville River.* Inoceramus *sp.*

Ks, *lower part of Sentinel Hill Member and Barrow Trail Member of Schrader Bluff Formation undifferentiated*

Ksb, *Barrow Trail Member of Schrader Bluff Formation. Mostly fine-grained bentonitic sandstone containing shale, siltstone, and tuff. Thickness 575 feet east of Umiat to about 800 feet at Prince Creek.* Inoceramus (Sphenoceramus) patootensis *de Loriol,* Protocardia *cf.* P. borealis *Whiteaves*

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 containing 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. 8, 9, 10, 11, 12, 13, sandstone beds*

Schrader Bluff Formation, Coniacian (?), Santonian, and Campanian in age

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

Kpsn
Tuluvak Tongue of Prince Creek Formation, Seabee Formation, Ninuluk Formation, and Niakogon Tongue of Chandler Formation, undifferentiated

Kse
Seabee Formation (marine)
Black shale and bentonite containing limestone concretions. Some generally calcareous sandstone. Thickens northeastward from 410 feet south of Maybe Creek to 1,495 feet at Umiat and 1,185 feet at Square Lake test well 1. 4, 5, 6, A, sandstone beds
Shale Wall and Ayiyak Members not differentiated, but sandstone 5 is probably basal bed of Ayiyak Member. Inoceramus labiatus *(Schlotheim),* Scaphites delicatulus *Warren,* Otoscaphites seabeensis *Cobban and Gryc,* Borissiakoceras ashurkoffae *Cobban and Gryc. Turonian in age*

UNCONFORMITY

Lower Cretaceous — Nanushuk Group

Kn
Ninuluk Formation (marine) and Niakogon Tongue of Chandler Formation (nonmarine), undifferentiated
Shale and fine- to medium-grained fossiliferous marine sandstone and 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. 1, 2, sandstone beds. Inoceramus dunveganensis *McLearn in basal beds. Cenomanian in age*

Ksn
Seabee Formation, Ninuluk Formation, and Niakogon Tongue of Chandler Formation, undifferentiated
CRETACEOUS

Kck
Killik Tongue of Chandler Formation (largely non-marine)
Shale containing 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 of shale and few thin coal beds. Thins eastward from 1,300 feet at Knifeblade test wells to 600 to 700 feet at Umiat. Albian in age

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

Kt
Torok Formation (marine)
Shale and siltstone and some sandstone. Poorly exposed. Upper part probably locally equivalent to lower part of Grandstand Formation. Albian in age

Contact
Dashed where approximately located; short dashed where inferred; dotted where concealed

Fault
Dashed where approximately located; queried where doubtful; dotted 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; dotted where concealed

Syncline
Showing trace of axial plane and plunge of axis. Dashed where approximately located; queried where doubtful; dotted where concealed

600
Structure Contour
Drawn on top of the Seabee Formation except on the Gubik anticline where they are drawn on top of the basal conglomerate of the Kogosukruk Tongue of the Prince Creek Formation. Contour intervals 50, 100, and 200 feet. Dashed where approximately located

4600
Seismic structure contour
Drawn on shallow reflectors near the base of the Killik Tongue of the Chandler Formation. Contour intervals 100 and 200 feet. Dashed where approximately located. By United Geophysical Co. Inc., Party 144, 1950, 1951

6–50
Line of seismic traverse
First number indicates number of traverse, second number indicates year in which traverse was made

Test well in cross section
Dashed where projected

Strike and dip of beds

Strike of vertical 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

x 350
Altitude in feet above sea level

N

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—1966—G65137

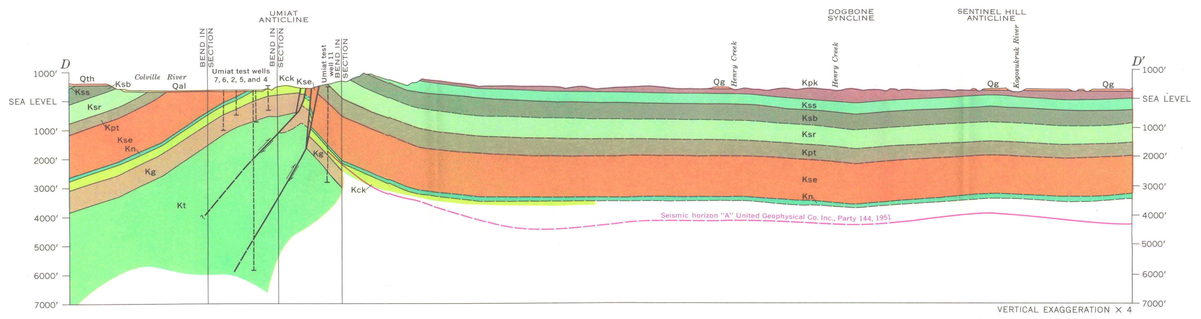
Geology mapped in 1944–53.
Geology of wells by F. R. Collins, F. M. Robinson, 1958–1959
Quaternary geology and Cretaceous geology of many interstream areas largely from interpretation of aerial photographs
Seismograph Survey by United Geophysical Co., Inc., 1950, 1951

SCALE 1:125 000
2 0 2 4 6 8 10 MILES
2 0 2 4 6 8 10 KILOMETERS

DATUM IS ASSUMED SEA LEVEL DATUM OF UMIAT SPECIAL MAP, 1948, AND IS 72 FEET TOO HIGH AT UMIAT

1960 MAGNETIC DECLINATION AT SOUTH EDGE OF SHEET RANGES FROM 27°30' TO 28°45' EAST

Section *D-D'*
(alluvium of small streams omitted)



VERTICAL EXAGGERATION × 4

GEOLOGIC MAP AND SECTIONS OF THE UMIAT-MAYBE CREEK REGION, ALASKA

FACKLER CALDERWOOD AND MANGUS
Consulting Geologists