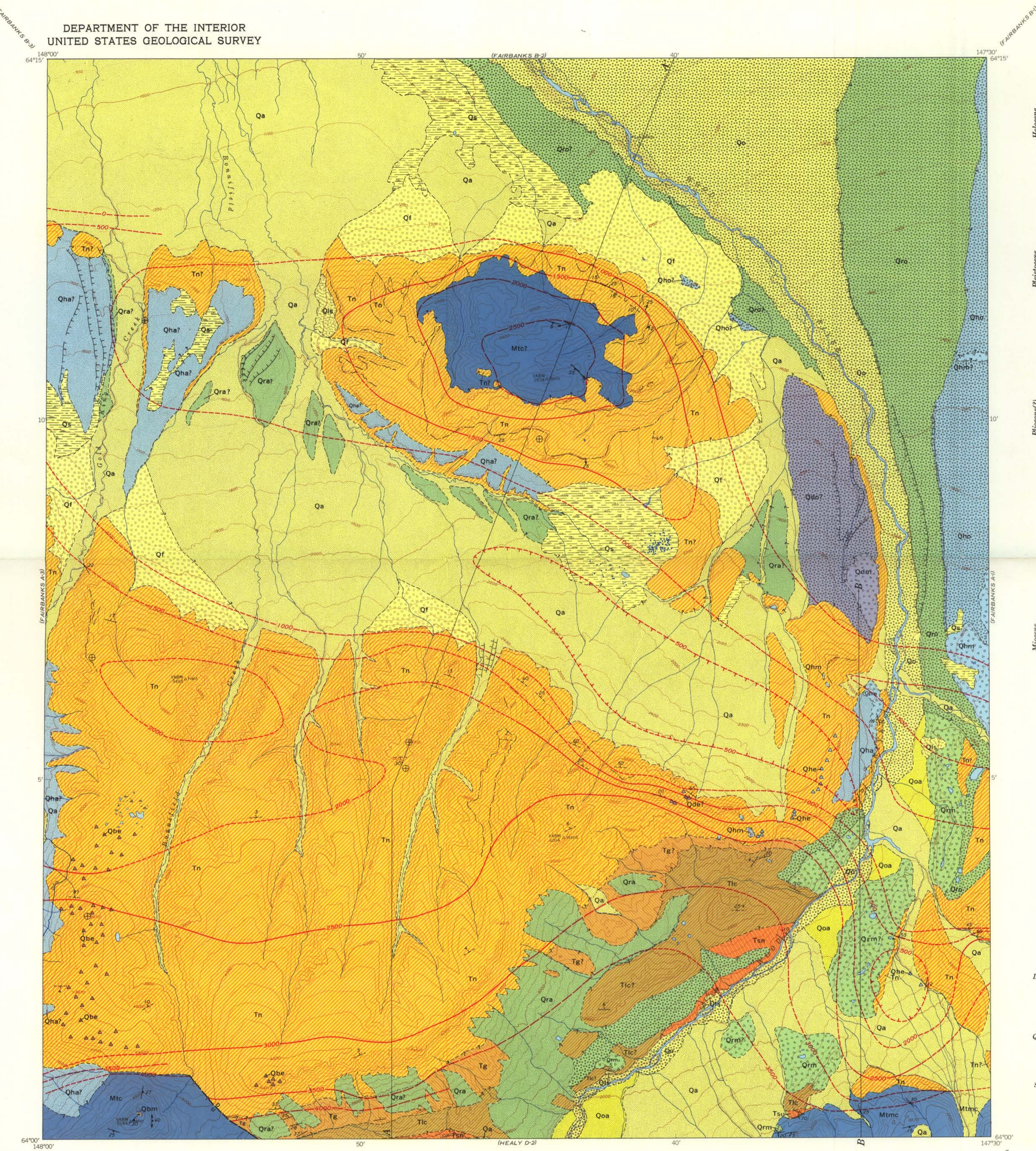


DEPARTMENT OF THE INTERIOR  
UNITED STATES GEOLOGICAL SURVEY

GEOLOGIC QUADRANGLE MAP  
FAIRBANKS A-2 QUADRANGLE, ALASKA  
QQ-808



**EXPLANATION**

**QUATERNARY**

**Holocene**

- Qa Alluvium
- Qf Fan deposits  
Mixed alluvium  
and colluvium
- Qo Outwash gravel
- Qls Landslide  
deposits
- Qs Swamp deposits
- Qoa Alluvial fans at  
mouths of Sheep  
and Coal Creeks

**Pleistocene**

**Riley Creek  
Glaciation**

- Qra Alluvium and  
pediment gravel
- Qro Outwash gravel
- Qrm Morainel  
deposits

**Healy  
Glaciation**

- Qha Alluvium and  
pediment gravel
- Qho Outwash gravel
- Qhm Morainel  
deposits
- Qhe Glacial  
erratics

**Dry Creek  
Glaciation**

- Qda Outwash gravel
- Qdm Morainel  
deposits
- Qde Glacial  
erratics

**Brown  
Glaciation**

- Qbn Morainel  
deposits
- Qbm Glacial  
erratics

**UNCONFORMITY**

**Pliocene(?)**

- Tn Nenana Gravel  
*Buff to reddish-brown, poorly consolidated, pebble to  
boulder conglomerate and coarse sandstone, with  
interbedded mudflow deposits, thin claystone layers  
and local thin lignite beds. Dash-dot lines, locally  
showing dip, indicate erosion-resistant beds  
mapped from aerial photographs*

**UNCONFORMITY**

**Miocene**

**Coal-bearing group**

- Tg Grubstake Formation  
*Interbedded dark-gray claystone and sandstone with  
abundant grains of black chert and other dark  
minerals and coalified plant remains*
- Tlc Lignite Creek Formation  
*Interbedded buff crossbedded pebbly arkosic sandstone,  
greenish-gray silt and clay, and platy weathering  
subbituminous coal. Coal and clay probably thin and  
pinch out northward. Pebbles in the sandstone are  
35 percent or more igneous and metamorphic rocks  
and 65 percent or less quartz, chert, quartzite, and  
argillite*
- Tsn Suntrana Formation  
*Interbedded poorly consolidated, white-weathering,  
crossbedded, pebbly quartz sandstone ("salt-and-  
pepper" sandstone), silty claystone, and blocky-  
fracturing subbituminous coal in thick, laterally  
persistent beds. Pebble population in sandstone more  
than 65 percent and usually more than 80 percent  
quartz, quartzite, chert, and argillite*
- Tsc Sanctuary Formation  
*Poorly consolidated, brown-weathering, gray, varved  
or banded shale. Breaks down readily to form land-  
slides. Shown in cross section only*

**MAJOR UNCONFORMITY**

**Tertiary**

**Totatlanika Schist**

- Mtn Mystic Creek Member  
*Green, gray, purple, and black rhyolite schist charac-  
terized by fine beta-quartz pseudomorphs with trails  
of sericite on foliation planes and by feldspar pheno-  
crysts of a wide range in size*
- Mtc California Creek Member  
*Gray quartz-orthoclase-sericite schist and augen gneiss*

**CONTACT**

Dashed where approximately located; short dashed  
where indefinite, gradational, or inferred from aerial  
photographs; dotted where concealed; queried where  
doubtful

**APPROXIMATE FAULT**

Queried where doubtful; U, upthrown side; D, down-  
thrown side

**STRUCTURE CONTOURS**

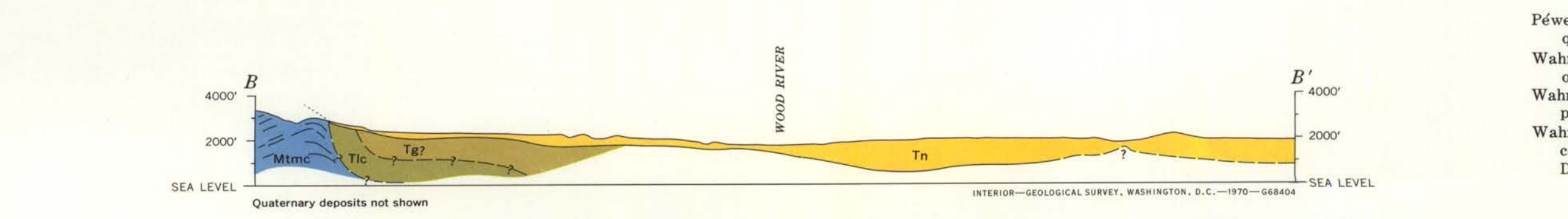
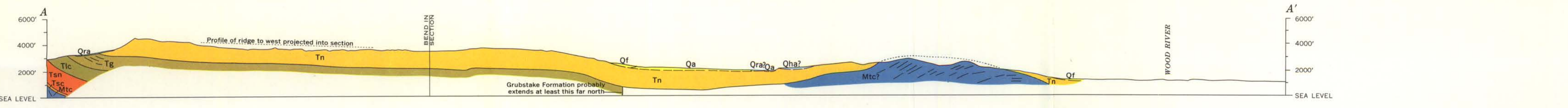
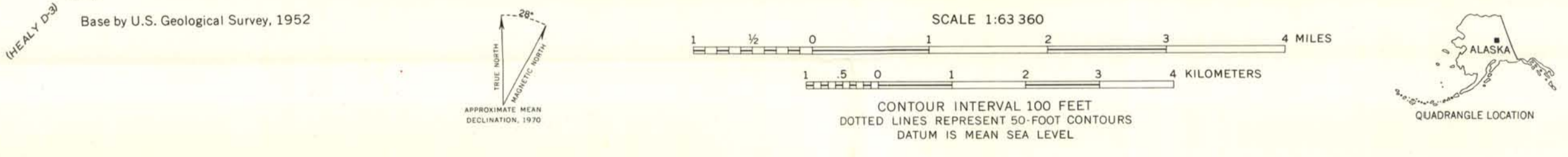
Drawn on base of Nenana Gravel; solid, position known  
within half a contour interval; long dashes, contoured  
surface above ground, position thought to be known  
within half a contour interval; short dashes, uncer-  
tainty of position greater than half a contour inter-  
val. Hatchures indicate closed basin. Contour interval  
500 feet

**Strike and dip of beds**

**Strike and dip of foliation**

**Escarpment**

Front or back of alluvial or outwash terrace; shown  
only where not clearly indicated by topographic con-  
tours



Geology by Clyde Wahrhaftig, 1950, 1954, and 1963, and R. A. Eckhart, 1950; assisted by Winton Bakke, Kirk Bryan, Jr., and Allan Cox, 1950, Allan Cox and Joel Swanson, 1954, and Lawrence Mayo, 1963

**SELECTED BIBLIOGRAPHY**

Péwé, Troy L., Wahrhaftig, Clyde, and Weber, Florence, 1966, Geologic map of the Fairbanks quadrangle, Alaska: U.S. Geol. Survey Misc. Geol. Inv. Map I-455, scale 1:250,000

Wahrhaftig, Clyde, 1958, Quaternary geology of the Nenana River valley and adjacent parts of the Alaska Range: U.S. Geol. Survey Prof. Paper 293-A, p. 1-68.

Wahrhaftig, Clyde, 1968, Schists of the central Alaska Range: U.S. Geol. Survey Bull. 1254-E, p. E1-E22.

Wahrhaftig, Clyde, Wolfe, Jack A., Leopold, Estella B., and Lanphere, Marvin A., 1969, The coal-bearing group in the Nenana coal field, Alaska: U.S. Geol. Survey Bull. 1274-D, p. D1-D30.

**GEOLOGIC MAP OF THE FAIRBANKS A-2 QUADRANGLE, ALASKA**

By  
Clyde Wahrhaftig  
1970