



Base from Army Map Service
topographic quadrangles

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C. — 62089
Geology mapped in 1953-54
and 1956-57

SEDIMENTARY DEPOSITS

Unconsolidated deposits

Mainly glacial, glaciofluvial, and alluvial deposits,
but locally includes eluvium

IGNEOUS ROCKS

Granitic intrusives

Dikes and sills

Mafic intrusives

Dikes and sills

Pegmatite

Dikes and sills

METAGNEOUS ROCKS

Metagranitic sills

Metagranodioritic sills

Greenstone sills

METASEDIMENTARY ROCKS

The following lithologic units were previously included
in the Nome Group (Brooks, A. H., Richardson, G. B.,
and Collier, A. J., 1901, Reconnaissance in the Cape
Nome and Norton Bay regions, Alaska: U. S. Geol.
Survey Spec. Pub., p. 29, also Moffit, F. H., 1913,
Geology of the Nome and Grand Central Quadrangles:
U. S. Geol. Survey Bull. 533, p. 17-19)

Interbedded marble and schist
Well-stratified sequence comprised principally of the
following rocks: non-graphitic to slightly graphitic,
quartz-chlorite-muscovite schist and chlorite-muscovite
schist, non-graphitic to slightly graphitic calcareous
and quartz-calcareous-chlorite-muscovite schist, blue-
gray and gray marble and buff-weathering and gray
schistose marble, garnetiferous and non-garnetiferous
amphibolite, and impure calcareous and non-calcareous
quartzite. Garnet and feldspar are constituents of
some chlorite-muscovite schist. Units consisting
mainly of marble are shown with cross-hatched pattern.
Contact with underlying calcareous schist gradational

Calcareous schist
Composed almost entirely of calcareous-rich rocks, in-
cluding non-graphitic to slightly graphitic chlorite-
muscovite schist and quartz-chlorite-muscovite schist,
buff-weathering calcareous chlorite-muscovite schist,
buff-weathering and gray schistose marble, and sparse
blue-gray marble. Contact with underlying quartzite
and schist gradational

Interbedded quartzite and schist
Predominantly green to gray-green chlorite-muscovite
schist and quartz-chlorite-muscovite schist but includes
spotted, feldspathic variants of them with intimately
interbedded lenticles and beds of buff- to brown-
weathering calcareous quartzite and yellow-green
argillaceous quartzite; lenticles range in size from
a fraction of an inch in thickness and a few inches
long to several feet in thickness and several tens to
hundreds of feet long; minor units include calcareous
chlorite-muscovite schist and gray and buff-weathering
schistose marble. Variants of all units with amphib-
ole and garnet are sparingly present in the northern
outcrop belt extending from upper Nome River to upper
Eldorado River. Contact with underlying schist
gradational

Marble
Pzmu consists mainly of calcareous, quartz-calcareous,
and quartz-chlorite-muscovite schist but includes
blue-gray and gray marble, buff-weathering and gray
schistose marble, and black quartzite. Gradational
with underlying rock
Pzm, principally platy, slabby and massive blue-gray
and gray marble, and buff-weathering and gray
schistose marble; minor units include calcareous
chlorite-muscovite schist, and graphitic and non-
graphitic chlorite-muscovite schist and quartz-
chlorite-muscovite schist. Contact with underlying
graphitic, calcareous schist gradational

EXPLANATION

Graphitic, calcareous schist
Pzgu, uppermost part of this unit is markedly more
graphitic than the rest; includes gray to dark-gray,
moderately to highly graphitic, calcareous quartz -
chlorite-muscovite schist; graphitic quartz-chlorite-
muscovite schist; gray, dark-gray, and black marble;
and black quartz schist and black quartzite. Grada-
tional with underlying rock
Pzg, predominantly gray, slightly graphitic, calcareous
quartz schist; minor units include blue-gray, gray,
and black marble, graphitic chlorite-muscovite schist,
quartz-chlorite-muscovite schist, and black quartz
schist and black quartzite. Non-graphitic to slightly
graphitic quartz-chlorite-muscovite schist, and black
graphitic quartz schist and black graphitic quartzite
predominate in units shown by vertical line pattern.
This unit in fault contact with what is considered to
be next underlying rock

Note: Rocks making up all of the following lithologic
units were previously included in the Kigluak Group.
See references cited above

Interbedded biotite schist and quartzite
Composed mainly of interbedded gray and black graphitic
quartzite and red-brown-weathering biotite schist.
Garnet, sillimanite, and staurolite are constituents
of some schist. Minor units include calc-silicate
rocks and diopside-bearing quartz-feldspar biotite
schist. Contact with underlying marble gradational

Dolomitic and calcitic marble
Predominantly, white dolomitic marble and grayish-white
to gray, impure biotite- and diopside-bearing calcitic
marble; minor units include pale green, calc-silicate
rocks, grayish-green to greenish-gray, diopside-
bearing quartz-feldspar-biotite schist, and orange-
red-, and brown-weathering quartz-feldspar schist and
quartz-biotite schist. Parts of the unit in which
schist predominates are shown by inclined line pattern

Contact
Short dashes where approximately located; short dashes
alternating with dots where inferred, extrapolated,
or semi-obscured. All contacts queried where doubtful

Contact of unconsolidated deposit, approximately located

Fault, showing dip
Dashed where approximately located or inferred; dotted
where concealed; queried where doubtful. U, upthrown
side; D, downthrown side

Lineament or fault from aerial photographs
Anticline, approximately located
Showing trace of axial plane and direction of plunge
of axis

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

Bearing and plunge of minor fold axis

Bearing of horizontal minor fold axis

Strike and dip of bedding foliation from aerial photographs

Strike and direction of dip of beds from aerial photographs

Horizontal bedding foliation

Strike and dip of bedding foliation

Strike of vertical bedding foliation

Strike and dip of bedding foliation

Open arrow shows bearing and plunge of lineation

Strike and dip of bedding foliation
Solid arrow shows bearing and plunge of minor fold axis
lying in plane of foliation

Strike and dip of bedding foliation
Open arrows indicate bearing of horizontal lineation

Bearing and plunge of lineation
Bearing of horizontal lineation
Bearing and plunge of pencil structure
Strike and dip of joint
Strike of vertical joint

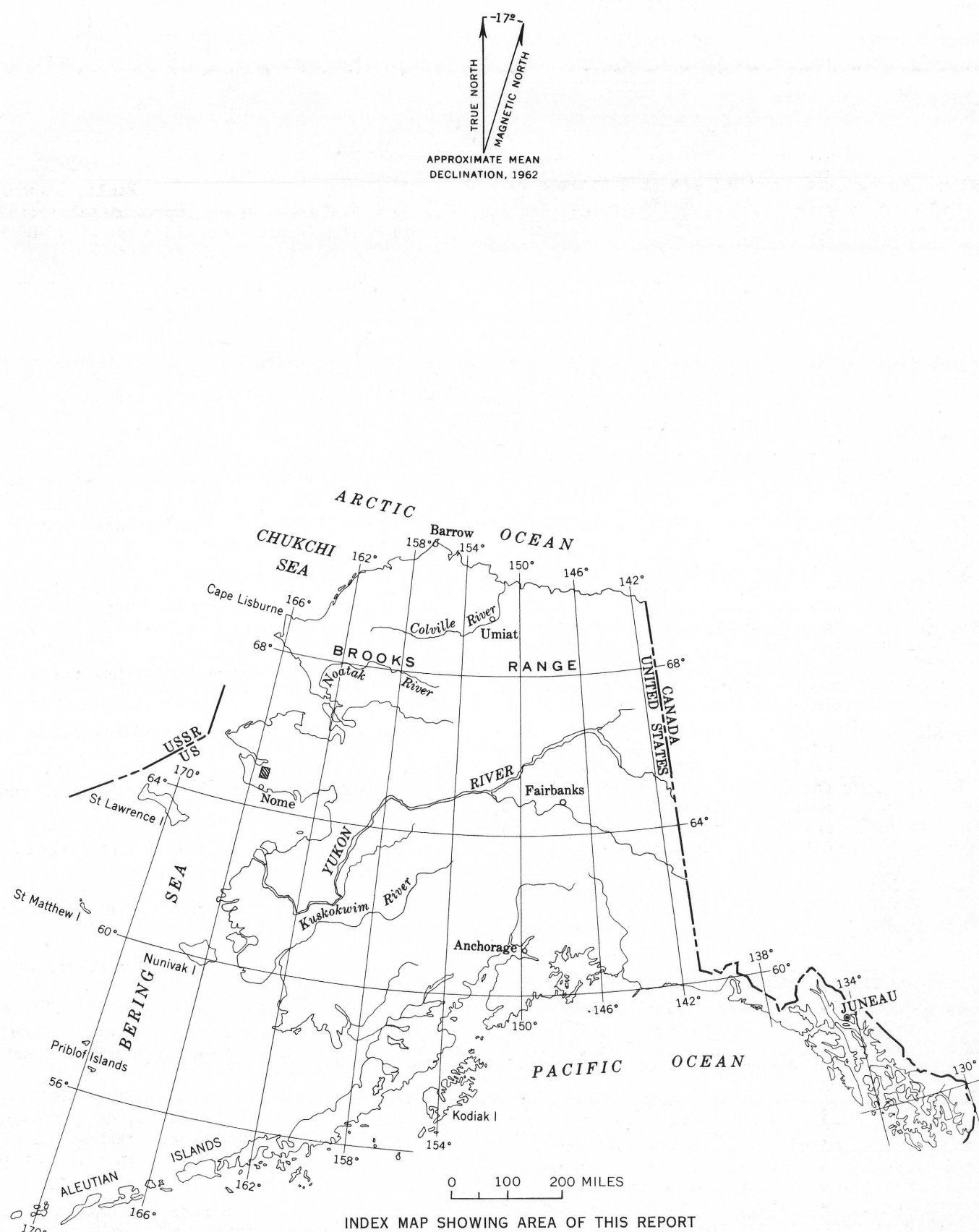
Mine or prospect
Numbers refer to mines and prospects listed below

- | | |
|----------------------------|----------------------------------|
| 1. Breen (East); Sb | 11. MacDuffee (West); Au, FeS |
| 2. Breen (West); Sb | 12. Moffit; graphite |
| 3. California (Jensen); Au | 13. Nelson (Steep Creek); Pb, Zn |
| 4. Charley Creek; Bi | 14. Nelson Gulch; Sch |
| 5. Copper Creek; Cu | 15. Sliscovitch; Sb |
| 6. Copper King; Cu, Pb | 16. Sliscovitch (South); Sb |
| 7. Copper Mountain; Cu | 17. Spring; Sb |
| 8. Hed and Strand; Sb | 18. Tannery; Sb |
| 9. Lindfors; Sb | 19. Thompson; Sb, Zn |
| 10. MacDuffee (East); Au | 20. Wyoming; FeS |

The names of the mines and prospects above are those by which they are
referred in previous geologic literature of the area.

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|---------------------------|-------------------------|
| 21. 53AHu 123; FeS | 32. 51AHu 522; FeS |
| 22. 53AHu 131; FeS | 33. 57AHu 132; Cu |
| 23. 53AHu 169; Sch | 34. 57AHu 135; FeS |
| 24. 53AHu 174; Sch | 35. 57AHu 216; Sch |
| 25. 53AHu 254; Cu | 36. 57AHu 244; graphite |
| 26. 53AHu 294; Sch | 37. 57AHu 272; Zn, Sch |
| 27. 51AHu 280; FeS | 38. 57AHu 278; graphite |
| 28. 51AHu 465 (Float); Cu | 39. 57AHu 291; FeS |
| 29. 51AHu 510; Sb | 40. 57AHu 300; Sch |
| 30. 51AHu 518; Sb | 41. 57AHu 347; FeS |
| 31. 51AHu 519; Sb | |

Prospects 21 through 41 were found or relocated during the current geol-
ogic investigation and no names could be found for them; they are here
listed according to the field station designations. The principal
constituents of the mines and prospects are indicated as follows: Au,
native gold; Cu, copper; FeS, iron sulfide; mainly pyrite and arseno-
pyrite but rarely pyrrhotite; Pb, lead; Sb, antimony; Sch, scheelite.



PRELIMINARY GEOLOGIC MAP OF THE NOME D-1 QUADRANGLE, SEWARD PENINSULA, ALASKA

By
C. H. Hummel

SCALE 1:63 360
CONTOUR INTERVAL 50 FEET
DATUM IS MEAN SEA LEVEL