

EXPLANATION

UNCONSOLIDATED DEPOSITS

IGNEOUS ROCKS

SYMBOLS

HOLOCENE

**Qa**  
Alluvium  
Gravel, sand, silt, organic silt and peat, includes floodplain alluvial deposits of present valley floors and low terraces (up to about 20 feet above present valley floor), includes outcrops wholly or partly filled with silt, organic silt, and peat. Clastic material generally rounded, well-sorted, and fairly well-stratified, locally includes many large boulders. A few feet to a few tens of feet thick.

**Qlt**  
Low terrace deposits  
Gravel, sand, and silt, primarily rounded, well-sorted, and fairly well- to poorly stratified, composes dissected terraces about 20 to 60 feet above present valley floor. Locally include unsorted angular to sub-rounded, unstratified alluvial material and mixed alluvial and colluvial material. Upper reaches of some streams may include glacial outwash. Mostly 5 to 30 feet thick.

**Qht**  
High terrace deposits  
Gravel, sand, and silt, primarily rounded, well-sorted, and poorly- to fairly well-stratified. Includes deposits about 80 to 260 feet above present valley floors. A few inches to a few tens of feet thick.

**Qc**  
Unstratified and unsorted glacial deposits; primarily in lateral and end moraines.

SEDIMENTARY ROCKS

**Td**

**Td**  
Detrital rocks  
Conglomerate, sandstone, siltstone and shale. Locally includes coal. Conglomerate has angular to rounded rock fragments in sandy matrix. Rock fragments range from sand size to 1 foot in diameter; composed of black chert, white quartz, and quartzite, and several types of metamorphic and igneous rocks; source of most metamorphic and igneous rocks may be local, but black chert not presently known in the local section. Locally, conglomerate grades into sandstone. Sandstone is gray or tan and commonly stained orange-brown. Siltstone and shale, gray, tan, or black, occur mostly as layers 1/2 inch to several feet thick in sandstone. Coal, lignitic, seams a few inches to a few feet thick. Strata locally contain plant fossils. Folded and faulted.

**Tb**

Undifferentiated igneous and meta-igneous rocks  
Mafic and ultramafic rocks with associated silicic and intermediate rocks, occur in dikes, sills, and small bodies. Faulted, covered zones, relations of the several rock types not known. Ultramafic and mafic rocks, dark greenish-black and black, partly serpentinized, predominate in northwestern part of area; local areas of quartz-carbonate rock. Felsic and intermediate rocks, gray and greenish-gray, fine- to medium-grained, locally silicified, predominate in southeastern part of area. Outcrops of different rock types within zone are indicated by symbols:  
aa - silicic rock, fine-grained  
vv - mafic rock, fine-grained, probably meta-basalt  
di - gabbro or diorite  
im - intermediate rock, mostly medium-grained, probably diorite  
ul - ultramafic rock, serpentinized

**Mn**  
Quartz monzonite  
Dark gray, medium-grained, fine- to fairly coarse-grained, contains biotite and muscovite, cut by alkali and pegmatite dikes. Could be younger than Mesozoic age, at least in part.

**Mg**  
Granodiorite  
Dark gray, medium-grained, hornblende dominant mafic mineral, has primary lineation. Age uncertain, but probably Mesozoic.

**Mu**  
Undifferentiated granitic rocks  
Primarily biotite-hornblende granodiorite, medium- to coarse-grained, but includes border phase of quartz diorite and diorite. Local areas, some of which may be dikes and sills, range in composition from diorite to alkali, with fine- to coarse-grained locally porphyritic textures.

**U**  
Ultramafic rocks  
Black or dark greenish gray, serpentinized. Occur as dikes, sills, or small masses.

METAMORPHIC ROCKS

**Bp**

**Bp**  
Phyllite unit  
Phyllite, argillite, quartzite and minor metagraywacke, fine-grained, medium-grained, marble, and metachert (?). Mostly light to dark gray, greenish gray, tan, and pink. Metamorphosed to lower greenschist facies.

**Bs**

**Bs**  
Quartz-graphite schist unit  
Quartz, graphite schist, quartzite, quartz phyllite, phyllite, quartz muscovite schist, quartz monzonite, orthite schist, gneiss, and marble. Mostly light to dark gray, light to dark green or greenish-gray. Local anomalous areas where rocks contain biotite and/or hornblende and/or garnet and/or glaucophane, dark green, mostly massive or obscurely foliated, but locally well-foliated; includes some green and pink quartzite, small serpentinized areas.  
[Symbol] - mostly greenish, light to dark green or greenish-gray, calcareous in places  
[Symbol] - quartz, graphite schist, quartz, mica schist, quartzite, quartz-biotite gneiss and calcareous quartzite schist. Many rocks contain minor amounts of biotite.  
[Symbol] - quartz, mica schist, hornblende gneiss and schist, quartzite, marble, and glaucophane. Rocks locally contain biotite and garnet.

**Bs**

**Bs**  
Biotite, green and white unit  
Quartz, biotite gneiss and schist, quartzite, amphibolite and feldspathic gneiss. Garnet and staurolite locally abundant.

Contact, approximately located, doubtful in places

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Fault, probable fault, or lineament, mostly determined from aerial photographs, and not field checked; dated where concealed. Arrows, where shown, indicate direction of apparent offset.

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Fault zone, inferred, width unknown, concealed by Tertiary rocks.

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Strike and dip of beds

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Strike and dip of foliation (or schistosity)

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Strike of vertical foliation (or schistosity)

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Strike and dip determined from aerial photographs

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Bearing and plunge of axis of light, minor fold or mineral lineation

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Country rock cut by one or more dikes, sills, or other small igneous masses commonly indicated by a mixture of rock types in rubble. Letter indicates composition and texture.

g - felsic, medium- or coarse-grained

f - felsic, fine-grained

d - probable intermediate composition, medium- or coarse-grained

i - probable intermediate composition, fine-grained

m - mafic, fine-grained

v - mafic, medium- or coarse-grained

b - Tectonic breccia

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Marble layers

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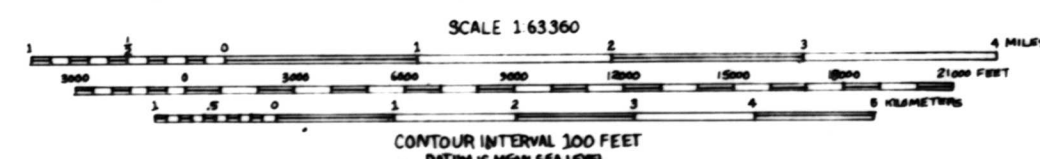
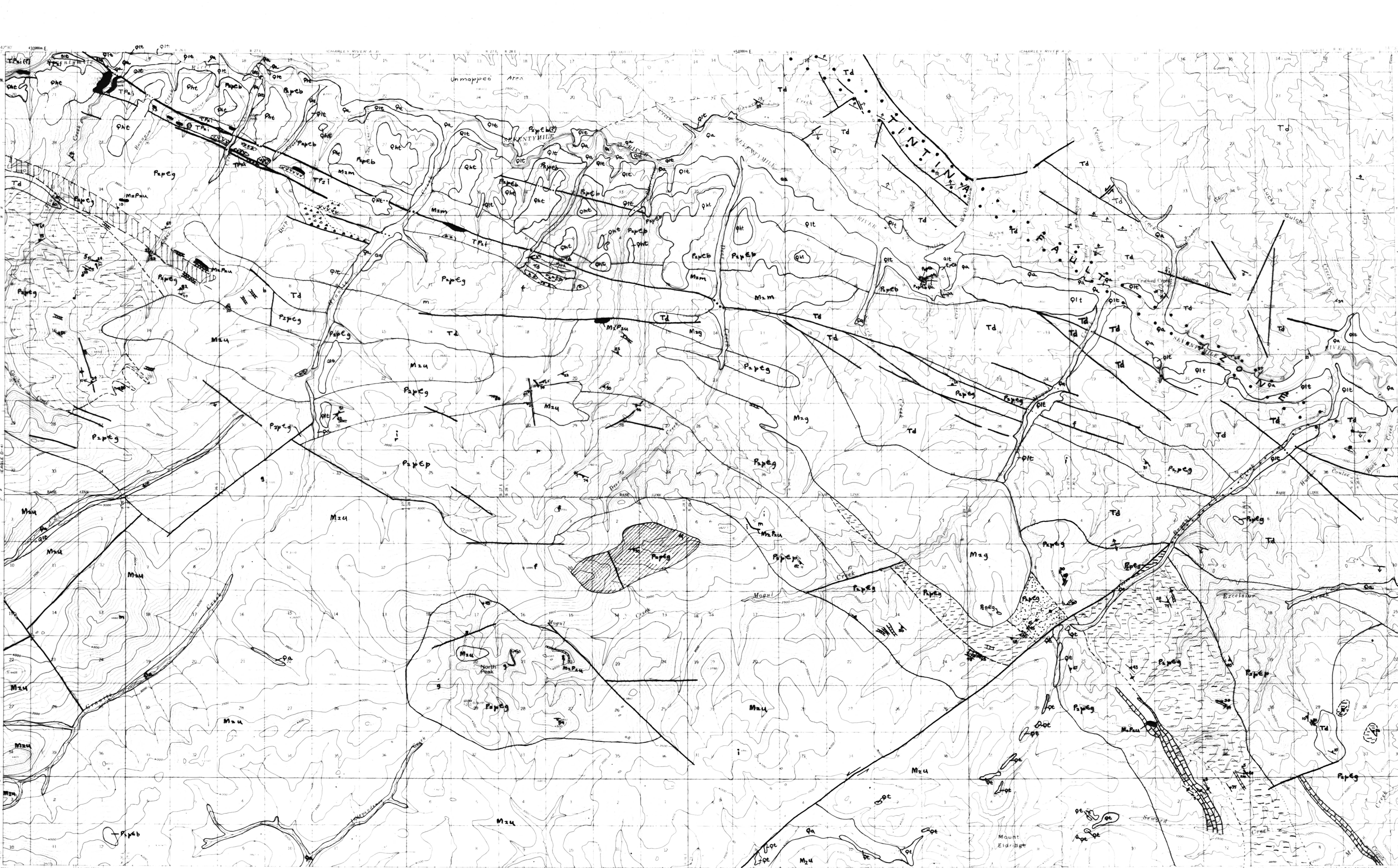
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Geology by Sandra H. B. Clark  
and Helen L. Foster, 1968

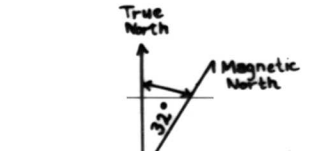
This map is preliminary and has not been  
edited or reviewed for conformity with  
U.S. Geological Survey standards.



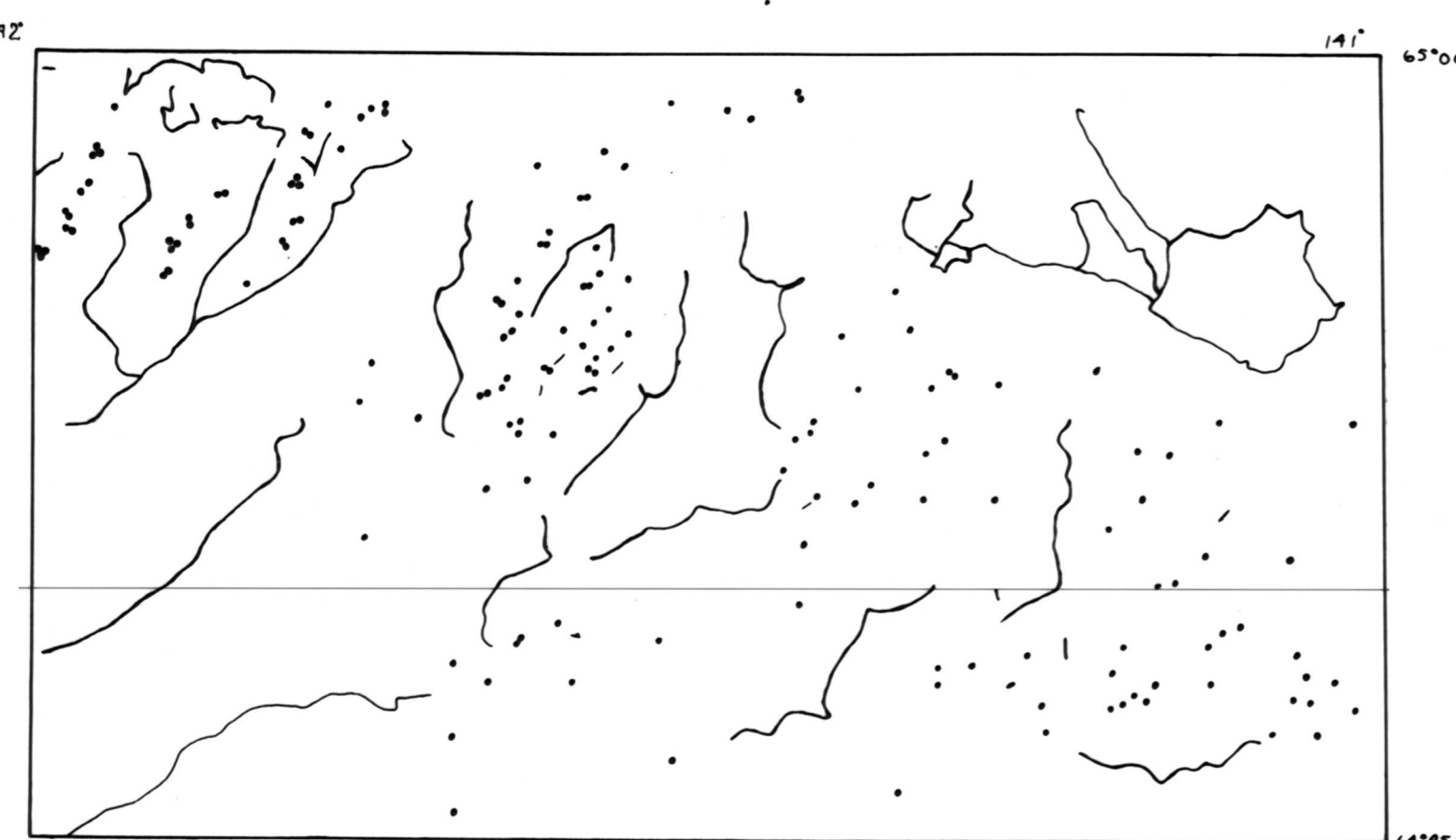
Index map showing location of  
Eagle D2 and D-3 quadrangles

Base from U.S. Geological Survey  
1:62,500 topographic series:  
EAGLE (D-2) and EAGLE (D-3),  
ALASKA, 1956. Compiled from  
Base Map Unit, 12-11-56

Approximate mean declination, 1924



Preliminary Geologic Map of the Eagle D2 and D-3 Quadrangles, Alaska.



INDEX MAP SHOWING GEOLOGIC FIELD COVERAGE  
Foot traverses shown by lines; helicopter stops shown by dots. Bedrock contacts and structures have been extended between field stations by aerial reconnaissance and interpretation of aerial photography.