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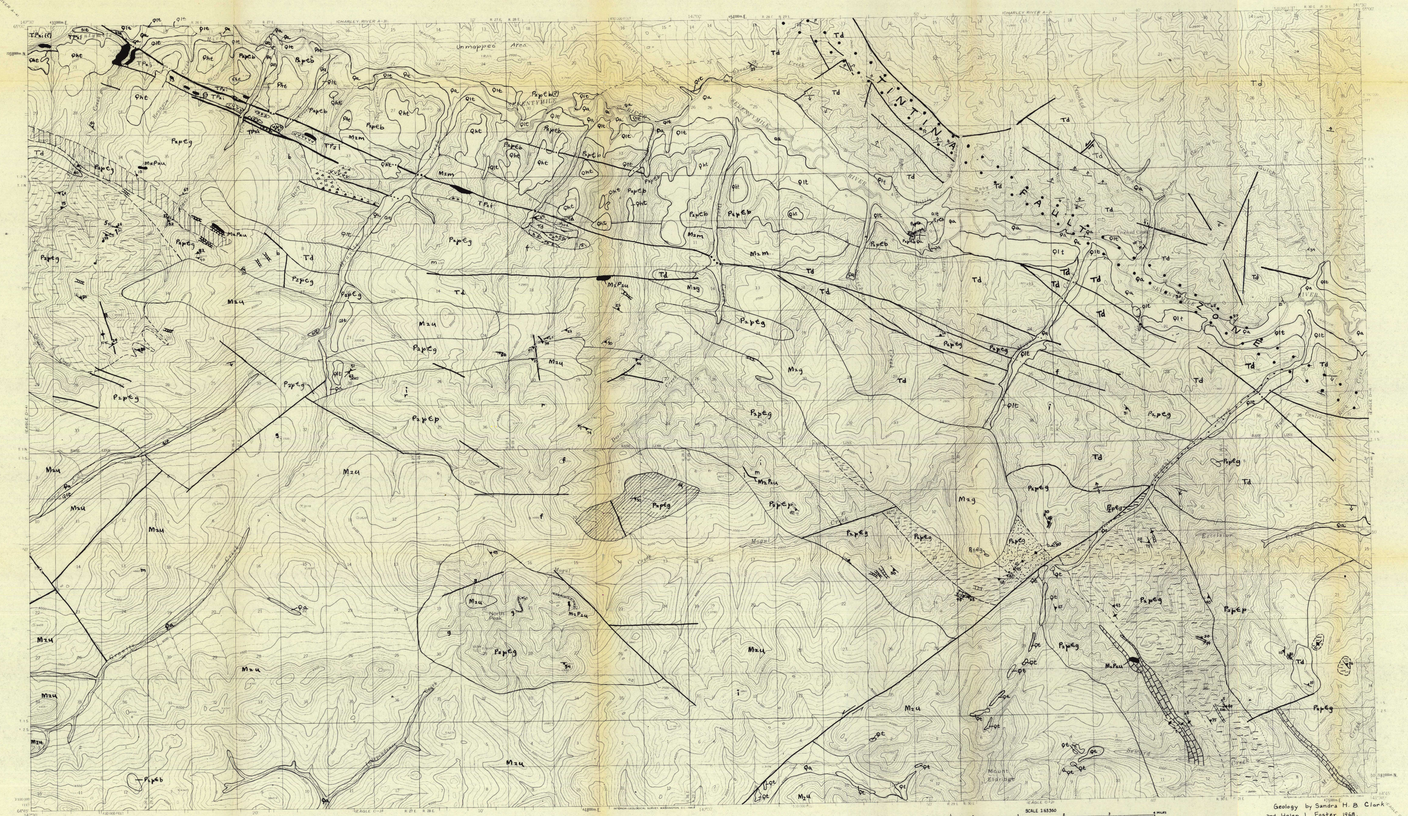
U.S. GEOLOGICAL SURVEY
OPEN FILE MAP



Base from U.S. Geological Survey 1:63,360 topographic series: EAGLE (D-2) and EAGLE (D-3), ALASKA, 1956. Compiled Menlo Park, Base Map Unit, 12-11-68

True North
Magnetic North
Approximate mean declination, 1966

Preliminary Geologic Map of the Eagle D-2 and D-3 Quadrangles, Alaska.

SCALE 1:63,360
CONTOUR INTERVAL 500 FEET
DATUM IS MEAN SEA LEVEL

Index map showing location of Eagle D-2 and D-3 quadrangles

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.

EXPLANATION

UNCONSOLIDATED DEPOSITS

QUATERNARY — HOLOCENE

Qal — 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 areas wholly or partly filled with silt, organic silts, 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.

PLEISTOCENE AND HOLOCENE

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 colluvial material and mixed alluvial and colluvial material. Upper reaches of some streams may include glacial outwash. Mostly 5 to 30 feet thick.

PLEISTOCENE

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

Qt — Till
Unstratified and unsorted glacial deposits; primarily in lateral and end moraines

SEDIMENTARY ROCKS

CENOZOIC — TERTIARY

Td — Detrital rocks
Conglomerate, sandstone, siltstone and clay. Locally include 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 ¼ 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

IGNEOUS ROCKS

Tg — Undifferentiated igneous and metamorphic rocks
Mafic and ultramafic rocks with associated silicic and intermediate rocks; occur as dikes, sills, and small bodies in faulted, covered zone; relations of the several rock types not known. Ultramafic and mafic rocks, dark greenish-black and black, partly serpentinized, predominate in northwestern part of zone; 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 zone.
Outcrops of different rock types within zone are indicated by symbols:
sa - silicic rock, fine-grained
mv - mafic rock, fine-grained, probably metabasalt
gb - gabbro or diabase
i - intermediate rock, mostly medium-grained, probably diorite
u - ultramafic rock, serpentinized

PALEOZOIC(?) to TERTIARY(?)

Mzqm — Quartz monzonite
Gray and tan; fairly fine- to fairly coarse-grained; contains biotite and muscovite, cut by aplite and pegmatite dikes. Could be younger than Mesozoic age, at least in part

Mzg — Granodiorite
Dark gray, medium-grained; hornblende dominant mafic mineral; has primary foliation. Age uncertain, but probably Mesozoic

Mzu — 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 alaskite, with fine- to coarse-grained locally porphyritic textures

MESOZOIC(?)

PALEOZOIC OR MESOZOIC

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

METAMORPHIC ROCKS

PRECAMBRIAN AND(OR) PALEOZOIC

Pzp — Phyllite unit
Phyllite, argillite, quartzite and minor metagraywacke, fine-grained metaconglomerate, marble, and metadacite (?). Mostly light to dark gray, greenish gray, tan, and pink. Metamorphosed to lower greenschist facies

Pzqs — Quartz-graphite schist unit
Quartz-graphite schist, quartzite, quartz-graphite phyllite, quartz-muscovite schist, quartz-muscovite-chlorite schist, greenstone, greenstone, and marble. Mostly light to dark gray, light to dark green or greenish-gray. Local abundance areas where rocks contain biotite and (or) hornblende and(or) garnet
- greenstone, dark green, mostly massive or obscurely foliated, but locally well-foliated, rock consists of chlorite with quartz, albite, and serpentinized amphibole
- quartz-greenschist, light to dark green or greenish-gray, schistose in places
- quartz-graphite schist, quartz-mica schist, quartzite, quartz-biotite, graphite and calcite-bearing quartz schist. Many rocks contain minor amounts of biotite
- quartz-mica schist, hornblende gneiss and schist, quartz-biotite gneiss and schist. Rocks locally contain biotite and garnet

Pzbs — Biotite gneiss and schist unit
Quartz-biotite gneiss and schist, quartzite, amphibolite and feldspathic gneiss. Garnet and staurolite locally abundant

SYMBOLS

Contact, approximately located, doubtful in places

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

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

Strike and dip of beds

Strike and dip of foliation (or schistosity)

Strike of vertical foliation (or schistosity)

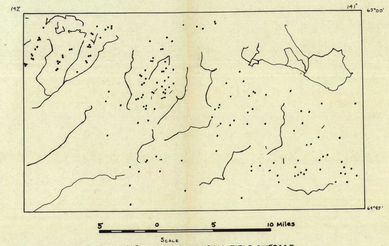
Strike and dip determined from aerial photographs

Bearing and plunge of axis of tight minor fold or mineral lineation

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, medium- or coarse-grained
i - probable intermediate, porphyritic, fine-grained
m - mafic, fine-grained
r - mafic, medium or coarse-grained

Tectonic breccia

Mylonite layers



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.