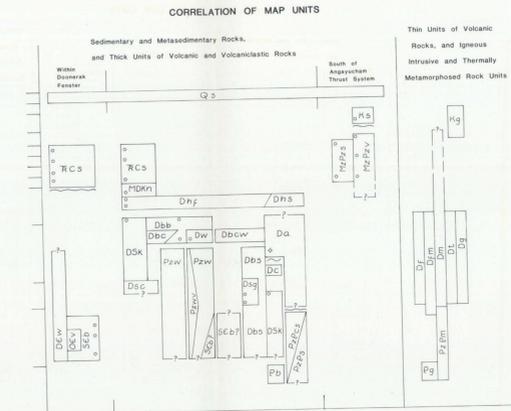


This is a revised version of the plate.



GEOLOGIC SYMBOLS	
QUATERNARY	
CRETACEOUS	
JURASSIC	
TRIASSIC	
PERMIAN	
PENNSYLVANIAN	
MISSISSIPPIAN	
DEVONIAN	
DEVONIAN? TO CAMBRIAN	
PROTEROZOIC	

- OTHER SYMBOLS**
- Thrust Fault--Sawtooth on upper plate; dotted where concealed.
 - Fault--Dashed where approximately located; dotted where concealed. Arrows show relative movement.
 - Geologic contact.
 - Dip and strike of beds.
 - Dip and strike of foliation.
 - Strike of vertical foliation.
 - Horizontal beds.
 - Axis of syncline.
 - Axis of anticline.
 - Overturned anticline.
 - Overturned syncline.
 - Location of cross section.
- X** Lodes, prospects, and occurrences (see text for description for each numeric or alphanumeric code).
- General areas hosting commodities as indicated on map.

The following description of a map unit is an abbreviated version of one prepared by Dillon and others (1986):

- QUATERNARY UNCONSOLIDATED DEPOSITS.**
- Qs SURFICIAL--glacial, alluvial, colluvial, and landslide.
- CRETACEOUS SEDIMENTARY ROCKS.**
- Ks NONMARINE AND MARINE SEDIMENTS--includes conglomerates, sandstones, shale, siltstone, and coal.
- MESOZOIC GRANITIC PLUTONIC ROCKS OF THE HODZANA HIGHLANDS.**
- Kg QUARTZ MONZONITE.
- ROCKS WITH AT LEAST ONE REGIONAL METAMORPHIC FABRIC.**
- MzPz METAGRAYWACKE AND PHYLLITE (Mississippian to Triassic)--also includes cherts and metagabbro.
 - MzPzv MAIFIC VOLCANIC ROCKS (Devonian to Lower Jurassic)--includes pillow basalt, diabase, chert, and minor limestone.
- SLIGHTLY METAMORPHOSED SEDIMENTARY AND VOLCANIC ROCKS WITH TWO REGIONAL METAMORPHIC FABRICS.**
- TcTs SEDIMENTARY ROCKS (Carboniferous through Upper Triassic)--includes black, red, and green shale and siltstone, calcareous siltstone, cherty and fossiliferous limestone, quartzite and minor conglomerate. Local felsic volcaniclastics. (Includes the following Formations or Groups: Shublik, Onuk, Sadlerochit, Sikkikok, Lisburne, Kayak Shale, Kekikuk Conglomerate.)
 - MDkn KANAYUT CONGLOMERATE AND NOATAK SANDSTONE (Upper Devonian and Lower Mississippian ?)--Marine and nonmarine, also includes some shale.
- TWICE METAMORPHOSED SEDIMENTARY AND VOLCANIC ROCKS, MIDDLE TO UPPER GREENSCHIST FACIES.**
- Dhf HUNT FORK SHALE (Upper Devonian)--also includes phyllite, lithic wacke, conglomerate, sandstone, and minor fossiliferous limestone.
 - Dhs HUNT FORK SCHIST (Upper Devonian)--also includes biotite garnet quartz schist.
- BEAUCOUP FORMATION.**
- Dbb BLACK ROCKS (Middle or Upper Devonian and Upper Devonian)--black calcareous phyllite and thin, dark limestone.
 - Dbcw CALCAREOUS CHLORITIC WACKE (Middle or Upper Devonian)--also includes sandstone, conglomerate, limestone, and phyllite (Correlates with Dwl).
 - Dbc CONGLOMERATE (Middle or Upper Devonian).
 - Dbs BLACK SLATE, PHYLLITE, AND LIMESTONE (Middle or Upper Devonian ?, or older ?)--also includes quartzite and lenses of brown dolomite.

- Dw WACKE (Middle or Upper Devonian?)--also includes some conglomerate and thin fossiliferous limestone.
 - Pzw WACKE AND LIMESTONE (Devonian or older)--also includes conglomerate, schist, phyllite, sandstone, and felsic flows, plugs, and tuff.
 - Pzvw VOLCANIC CONGLOMERATE (Middle or Upper Devonian?, or older?).
 - Da AMBLER METAVOLCANIC ROCKS (Lower ?, Middle and Upper Devonian?)--mafic and felsic volcanics interbedded with schist, quartzite, and marble.
 - Df FELSIC METAVOLCANIC ROCKS (Devonian)--extrusive and intrusive interbedded with metasediments.
 - Dm METABASITE (Devonian and Devonian?), and Jurassic?)--locally are parts of Ambler Metavolcanics, includes both intrusive and extrusive rocks.
 - Dfm METAMORPHOSED BIMODAL IGNEOUS ROCKS (Devonian and Devonian?)--interlayered felsic and mafic extrusive and intrusive rocks locally mixed with clastic rocks.
 - Dg GRANITE GNEISS (Devonian and Devonian?).
 - Dt TACTITE (Devonian?).
 - Dc CHLORITIC AND CARBONATE ROCKS (Middle or Upper Devonian?)--phyllite and dolomite; also includes metasediments, marble, and conglomerate.
 - DSK SKAIT LIMESTONE (Devonian and older?)--marble, dolomite, and carbonate conglomerate, locally schist.
 - Dsc SILICEOUS CLASTIC ROCKS (Middle Devonian?)--includes metasilstone, sandstone, phyllite, grit, and conglomerate (correlates with Dsg and upper part of Pzw).
 - Dig GRAYWACKE OF SILLYASHEEN MOUNTAIN (Middle Devonian).
- BANDED SCHIST, PARAGNEISS, AND ORTHOGNEISS THAT MAY HAVE BEEN REGIONALLY METAMORPHOSED THREE TIMES.**
- PzPm METABASITE (Proterozoic or Lower Paleozoic?)--gabbro and gabbro dikes and greenschist.
 - PzPs SCHIST (Proterozoic or Lower Paleozoic?)--various types, local marble.
 - PzPcs CALCAREOUS SCHIST (Proterozoic or Lower Paleozoic?)--local marble.
 - Pg GRANITE GNEISS (Proterozoic?).
 - Pb BANDED SCHIST (Proterozoic?)--also includes quartzite, marble, and metabasite.
- BASEMENT ROCKS OF THE DOONERAK FENSTER.**
- Dcw WACKE (Paleozoic)--also includes meta-tuff.
 - Seb BLACK SILTSTONE AND PHYLLITE (Cambrian to Silurian)--also includes minor quartzite, graywacke, metatuff, dolomite, and limestone; numerous unmapped mafic sills.
 - OGv VOLCANIC ROCKS (Cambrian? and Ordovician)--andesitic to basaltic volcaniclastics with local phyllite, gabbro, diabase, and phyllite.

65 = Cu, Zn
66 = Sb, Au, Ag
67 = " " "

Base from U.S. Geological Survey Wiseman, 1956, unrevised.

Geology from Dillon and others, 1986.

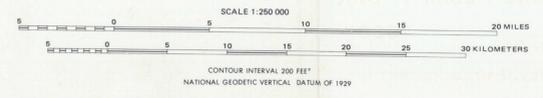
LODES, PROSPECTS, AND OCCURRENCES IN THE WISEMAN QUADRANGLE, BROOKS RANGE, ALASKA

By

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This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature. Any use of trade names is for descriptive purposes only and does not imply endorsement by the USGS.