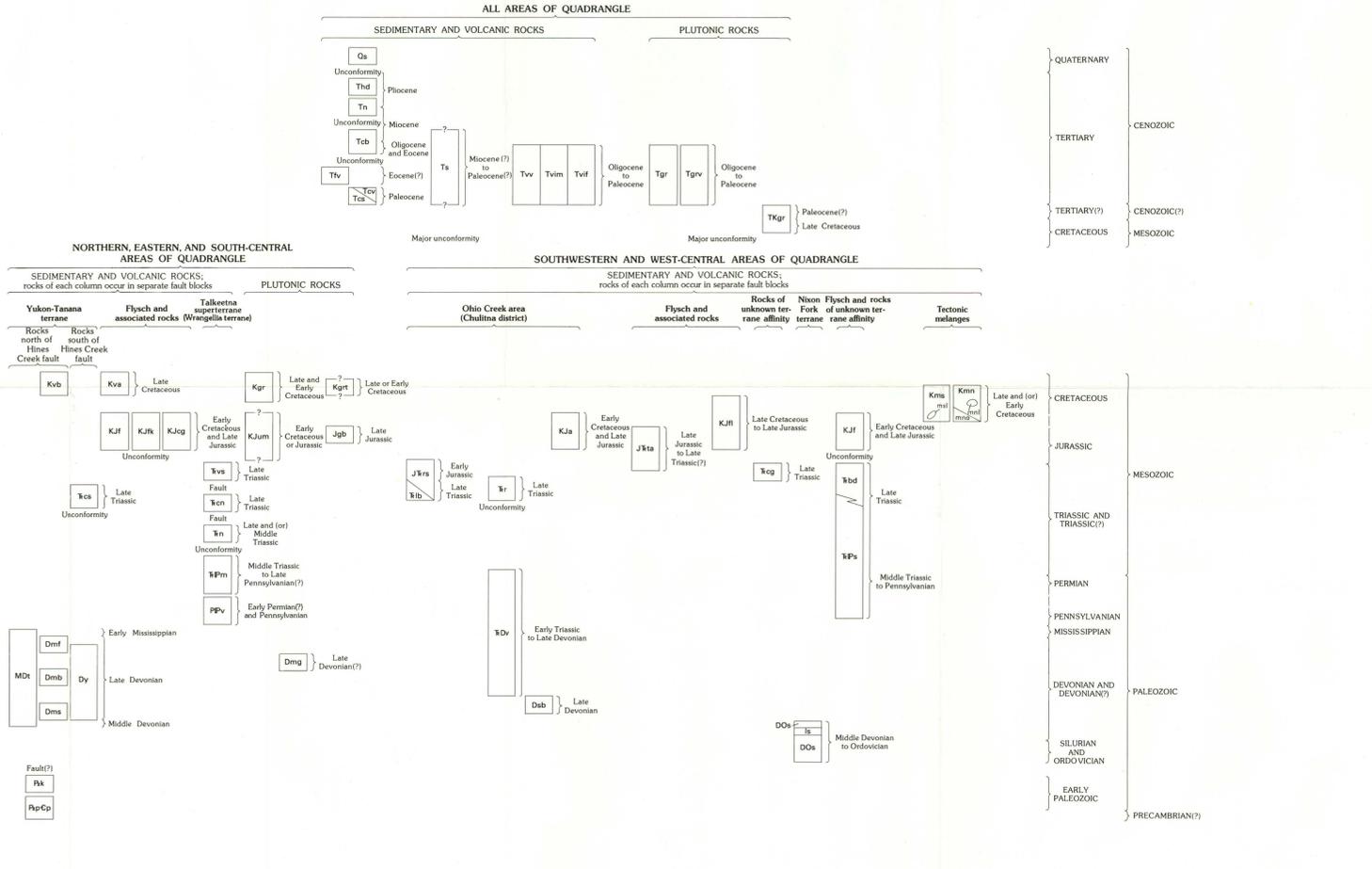


- ### DESCRIPTION OF MAP UNITS
- ALL AREAS OF HEALY QUADRANGLE**
- SEDIMENTARY AND VOLCANIC ROCKS**
- Qs** Surficial deposits (Quaternary)
 - Thd** Hornblende dacite (Pliocene)
 - Tn** Nevana Gravel (Pliocene and Miocene)--Poorly consolidated conglomerate and sandstone
 - Tcb** Coal-bearing rocks (Miocene to Eocene)--Mainly siltstone and shale with subbituminous coal and lignite
 - Ts** Sedimentary rocks (Miocene? to Paleocene?)--Mainly poorly consolidated shale, sandstone, siltstone, and conglomerate
 - Tvv** Volcanic rocks (Oligocene to Paleocene)--Flows, pyroclastic rocks, and subvolcanic intrusions consisting of andesite and subordinate dikes ranging in composition from basalt to rhyolite
 - Tvim** Felsic subvolcanic intrusive rocks--Mainly dikes of rhyolite and dacite
 - Tvil** Mafic subvolcanic intrusive rocks--Mainly dikes of basalt and subordinate andesite
 - Tfv** Flyschlike and volcanic rocks (Eocene?)--Mainly conglomerate, sandstone, and siltstone and a few thin flows of basaltic andesite
 - Tcv** Cantwell Formation (Paleocene)--Volcanic rocks subvolcanic--Flows of andesite, basalt, rhyolite, and dacite and pyroclastic felsic rocks
 - Tcs** Sedimentary rocks--Mainly conglomerate, sandstone, and shale and a few thin coal beds and volcanic flows and tuffs
- PLUTONIC ROCKS**
- Tgr** Granite rocks (Oligocene to Paleocene)--Mainly granitic
 - Tgrv** Granite and volcanic rocks, undivided (Oligocene to Paleocene)--Border zone between granitic rocks and Tertiary volcanic rocks
 - TKgr** Granite and hypabyssal intrusive rocks (Paleocene? and Late Cretaceous)--Mainly granodiorite
- NORTHERN, EASTERN, AND SOUTH-CENTRAL AREAS OF QUADRANGLE**
- SEDIMENTARY AND VOLCANIC ROCKS**
- Kvb** Rocks north of Hines Creek fault
 - MDt** Basaltic subvolcanic rocks (Late Cretaceous)--Mainly dike swarms
 - Dmf** Totlatanka Schist (Early Mississippian to Middle Devonian)--Carbonaceous slate, phyllite, and schist; metachert, quartz-orthoclase-sericite schist and sages green, metamorphic rock
 - Dmb** Felsic metavolcanic rocks (Late Devonian)--Metamorphosed rhyolite and quartz latite
 - Dms** Metabasalt and subordinate metametasedimentary rocks (Late Devonian)--Greenschist, metabasalt, and carbonaceous phyllite
 - Pzk** Metasedimentary rocks (Late Devonian)--Sericitic schist, black slate, and chert
 - Pzpc** Keevy Peak Formation (early Paleozoic)--Mainly sericitic schist, quartzite, arkosic schist, black slate, and phyllite
 - Rcs** Pelitic and quartzite schist sequence (early Paleozoic and Precambrian)--Quartz sericite (carbonate) schist, quartzite, and black phyllite
 - Dy** Rocks south of Hines Creek fault
 - Kva** Calcareous sedimentary rocks (Late Triassic; middle Norian to Karanian)--Locally metamorphosed, carbonaceous, calcareous shale and sandstone and sandy to silty limestone. Includes sills and dikes of gabbro
 - Kvj** Yanert Fork sequence (Late Devonian)--Carbonaceous siliceous mudstone, slate, phyllite, and schist; impure quartzite and metachert, metamorphic rocks, and marble interbeds. Also dikes and sills of gabbro
 - Kvjf** Flysch and associated rocks
 - Kvjf** Andesitic subvolcanic intrusive rocks (Late Cretaceous)--Hornblende andesite
 - Kvjf** Flysch sequence (Early Cretaceous and Late Jurassic)--Graywacke, quartz diorite, and granodiorite. Metamorphosed in southeast part of area.
 - Kvjf** Overthrust flysch-like rocks (Early Cretaceous and Late Jurassic)--Lithology identical to unit Kvjf
 - Kvjf** Conglomerate, sandstone, siltstone, shale, and volcanic rocks (Early Cretaceous and Late Jurassic)
 - Rvs** Talketta superterrane (includes Wrangella terrane)
 - Rcn** Metavolcanic, metavolcaniclastic, and subordinate metametasedimentary rocks (Late Triassic; late Norian)--Marble, basalt, tuff, slate, and gabbro
 - Rn** Chertstone and Nizina Limestone, undivided (Late Triassic; early Norian and late Karanian)
 - Rn** Nikolai Greenstone (Late and (or) Middle Triassic)--Mainly subvolcanic flows of amygdaloidal basalt
 - Rpm** Metasedimentary rocks sequence (Middle Triassic to Late Pennsylvanian)--Black argillite, thin beds of volcanic breccia and sandstone, and limestone overlain by thin-bedded chert. Sills and dikes of gabbro
 - Ppv** Andesitic volcanic rocks (Early Permian? and Pennsylvanian)--Volcanic flows and breccias, probably mafic
- PLUTONIC ROCKS**
- Kgr** Granite rocks (Late and (or) Early Cretaceous)--Mainly monzonite, quartz diorite, and granodiorite, generally well foliated
 - Kgrf** Tourmaline-bearing granite (Late or Early Cretaceous)
 - Kjum** Ultramafic rocks (Early Cretaceous or Jurassic)--Plagioclase-bearing peridotite
 - Jgb** Alkali gabbro (Late Jurassic)
 - Dmg** Metagabbro (Late Devonian?)
- SOUTHWESTERN AND WEST-CENTRAL AREAS OF QUADRANGLE**
- SEDIMENTARY AND VOLCANIC ROCKS**
- Ohio Creek area (Chulitna district)**
- Kja** Argillite, chert, sandstone, and limestone (Early Cretaceous and Late Jurassic)
 - Jrfs** Red and brown sedimentary rocks and basalt (Early Jurassic and Late Triassic)--Red sandstone, siltstone, conglomerate, and basalt overlain by brown sandstone and siltstone
 - Tib** Limestone and basalt sequence (Late Triassic; Norian?)
 - Tr** Red beds (Late Triassic)--Red sandstone, siltstone, and conglomerate
 - Rdv** Volcanogenic and sedimentary rocks (Early Triassic to Late Devonian)--Tuffaceous chert, mudstone, and basalt breccia; flysch-like graywacke and mudstone; limestone
 - Dsb** Serpentine, basalt, chert, and gabbro (Late Devonian)
 - Kvjf** Flysch and associated rocks
 - Kvjf** Flysch sequence (Late Cretaceous to Late Jurassic)
 - Jrta** Crystal tuff, argillite, chert, graywacke, and limestone (Late Jurassic to Late Triassic?)
 - Rcg** Rocks of unknown terrane affinity
 - Rcg** Conglomerate and volcanic sandstone (Late Triassic; late Norian)
 - Dof** Nixon Fork terrane
 - Is** Sedimentary rocks sequence (Middle Devonian to Ordovician)--Black argillite and siltstone, massive limestone (ls), thinly bedded limestone, and chert
 - Rpm** Flysch and rocks of unknown terrane affinity
 - Kvjf** Flysch sequence (Early Cretaceous and Late Jurassic)--Same rocks as unit Kvjf in eastern and southern parts of quadrangle
 - Rbd** Basalt, diabase, and subordinate sedimentary rocks (Late Triassic; Karanian and Norian)
 - Rps** Flysch-like sedimentary rocks (Late Triassic to Pennsylvanian)--Impure sandstone, siltstone, and shale; minor limestone and chert
 - Kms** Tectonic melanges
 - Kmn** Melange south of McKinley fault (Late and (or) Early Cretaceous)--Dark-gray flysch, chert tuff, volcanic sandstone, and blocks of limestone (msl)
 - Kmn** Melange north of McKinley fault (Late and (or) Early Cretaceous)--Similar to unit Kmn but contains recrystallized limestone (mnl) and ophiolitic rocks (mo), mainly serpentinite, basalt, and chert
- PRECAMBRIAN(?)**
- DOs** Middle Devonian to Ordovician

CORRELATION OF MAP UNITS



DISTRIBUTION OF ANOMALOUSLY HIGH CONCENTRATIONS OF SELECTED ELEMENTS IN STREAM-SEDIMENT SAMPLES, HEALY QUADRANGLE, ALASKA

- Qs** Quaternary
 - Thd** Pliocene
 - Tn** Miocene
 - Tcb** Oligocene and Eocene
 - Ts** Paleocene
 - Tvv** Oligocene to Paleocene
 - Tvim** Oligocene to Paleocene
 - Tvil** Oligocene to Paleocene
 - Tfv** Paleocene(?)
 - Tcv** Late Cretaceous
 - Tgr** Oligocene to Paleocene
 - Tgrv** Oligocene to Paleocene
 - TKgr** Paleocene(?)
 - TKgr** Late Cretaceous
 - Kvb** Late Cretaceous
 - MDt** Late and Early Cretaceous
 - Dmf** Late and Early Cretaceous
 - Dmb** Late and Early Cretaceous
 - Dms** Late and Early Cretaceous
 - Pzk** Late and Early Cretaceous
 - Pzpc** Late and Early Cretaceous
 - Rcs** Late and Early Cretaceous
 - Dy** Late and Early Cretaceous
 - Kva** Late and Early Cretaceous
 - Kvj** Late and Early Cretaceous
 - Kvjf** Late and Early Cretaceous
 - Kvjf** Late and Early Cretaceous
 - Kvjf** Late and Early Cretaceous
 - Rvs** Late and Early Cretaceous
 - Rcn** Late and Early Cretaceous
 - Rn** Late and Early Cretaceous
 - Rpm** Late and Early Cretaceous
 - Ppv** Late and Early Cretaceous
 - Kgr** Late and Early Cretaceous
 - Kgrf** Late and Early Cretaceous
 - Kjum** Late and Early Cretaceous
 - Jgb** Late and Early Cretaceous
 - Dmg** Late and Early Cretaceous
 - Kja** Late and Early Cretaceous
 - Jrfs** Late and Early Cretaceous
 - Tib** Late and Early Cretaceous
 - Tr** Late and Early Cretaceous
 - Rdv** Late and Early Cretaceous
 - Dsb** Late and Early Cretaceous
 - Kvjf** Late and Early Cretaceous
 - Jrta** Late and Early Cretaceous
 - Rcg** Late and Early Cretaceous
 - Dof** Late and Early Cretaceous
 - Rpm** Late and Early Cretaceous
 - Kvjf** Late and Early Cretaceous
 - Rbd** Late and Early Cretaceous
 - Rps** Late and Early Cretaceous
 - Kms** Late and Early Cretaceous
 - Kmn** Late and Early Cretaceous
 - DOs** Middle Devonian to Ordovician
- Geological symbols:**
- Contact--Approximately located
 - Thrust fault--Showing direction of dip of overturned thrust fault. Dashed where inferred; dotted where concealed. Sawtooth on upper plate
 - High-angle reverse fault--Dashed where inferred; dotted where concealed. Sawtooth on upper plate
 - Fault--Dashed where inferred; dotted where concealed. Where displacement known, U, upthrown side; D, downthrown side; arrows indicate relative horizontal movement
 - Postulated position of fault prior to intrusion of plutonic and subvolcanic rocks
 - Anticline--Showing direction of plunge
 - Overturned anticline--Showing direction of dip of limbs and plunge
 - Syncline--Showing direction of plunge. Dashed where inferred
 - Overturned syncline--Showing direction of dip of limbs and plunge. Dashed where inferred
 - Sample locality showing outline of drainage basin area and listing elements with anomalously high concentrations in stream-sediment samples. Elements in parenthesis fall within the 95-98 percentile range, all others are in the 98-100 percentile range. See plate 1 for sample numbers