

DESCRIPTION OF MAP UNITS

- ALL AREAS OF HEALY QUADRANGLE  
SEDIMENTARY AND VOLCANIC ROCKS**
- Qs Surficial deposits (Quaternary)
  - Thd Hornblende diatite (Pliocene)
  - Tn Nenana 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)--Flow, pyroclastic rocks, and subvolcanic intrusions--Subarcular volcanic rocks and subordinate dikes ranging in composition from basalt to rhyolite
  - Tvim Felsic subvolcanic intrusive rocks--Mainly dikes of rhyolite and dacite
  - Tvif Mafic subvolcanic intrusive rocks--Mainly dikes of basalt and andesite
  - Tvfi Fluvialite and volcanic rocks (Eocene?)--Mainly conglomerate, sandstone, and siltstone and a few thin flows of basaltic andesite
  - Tcv Cantwell Formation (Paleocene)--Volcanic rocks subunit--Flows of andesite, basalt, rhyolite, and dacite and pyroclastic-felsic rocks
  - Tcs Sedimentary rocks--Mainly conglomerate, sandstone, and siltstone
  - Tgr Plutonic rocks (Oligocene to Paleocene)--Mainly tonalite, quartz diorite, and granodiorite
  - Tgrv Granitic 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

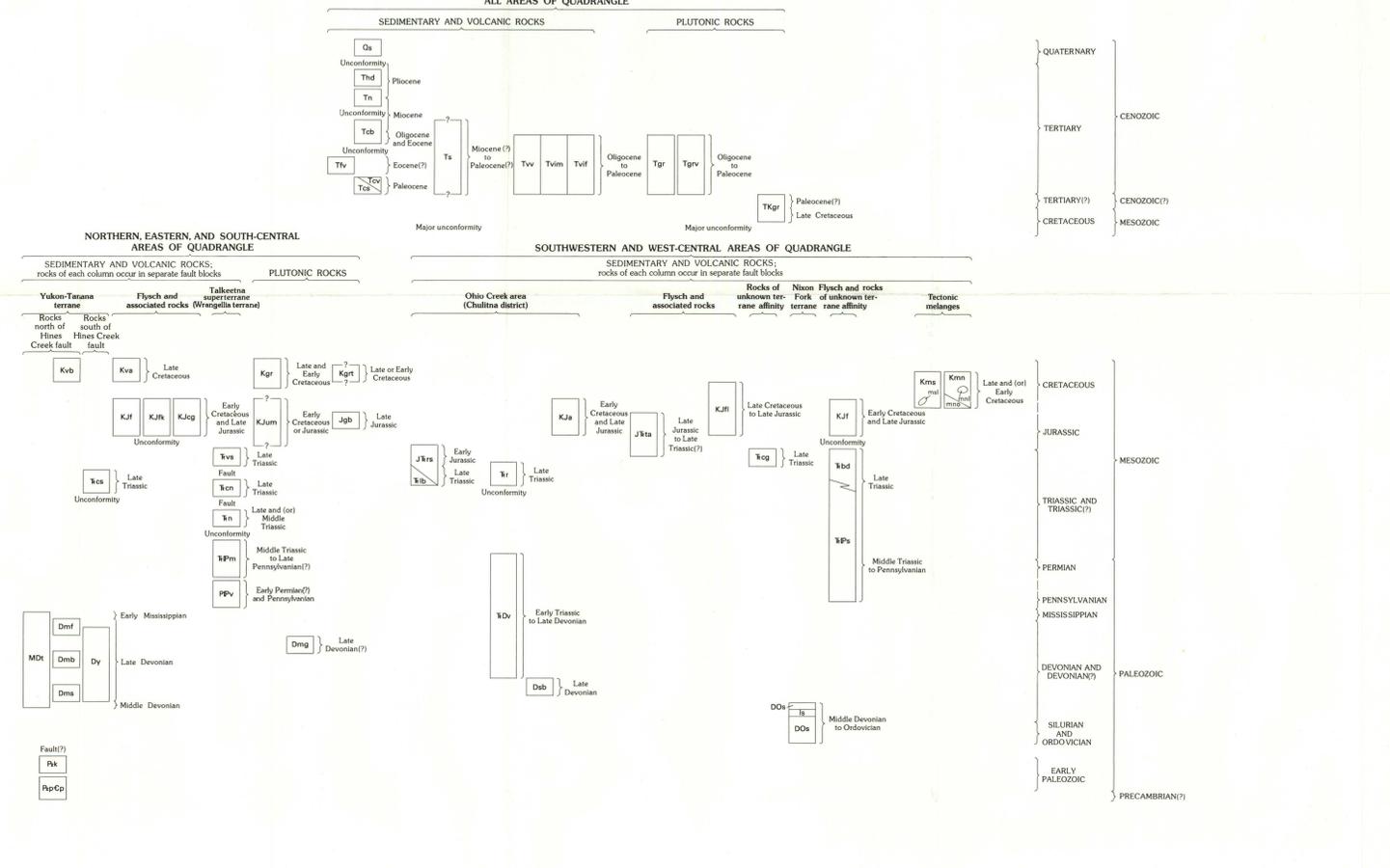
NORTHERN, EASTERN, AND SOUTH-CENTRAL AREAS OF QUADRANGLE

- SEDIMENTARY AND VOLCANIC ROCKS**
- Kvb Yukon-Tanana terrane
  - MDI Basaltic subvolcanic rocks (Late Cretaceous)--Mainly dike swarms
  - Dmf Totankia Schist (Early Mississippian to Middle Devonian)--Carbonaceous slate, phyllite, and augen gneiss, metagabbro, and mafic gneiss
  - Dmb Metasedimentary rocks (Late Devonian)--Metamorphosed flysch and quartz latite
  - Dms Metasedimentary rocks (Late Devonian)--Serpentine, schist, and phyllite
  - Pzk Keevy Peak Formation (early Paleozoic)--Mainly sericite schist, quartzite, arkose schist, and siltstone
  - PpPd Pelitic and quartzite schist sequence (early Paleozoic and Precambrian)--Quartz sericite (arkose) schist, quartzite, and black phyllite
  - Rcs Rocks south of Hines Creek fault
  - Dy Calcareous sedimentary rocks (Late Triassic; middle Norian to Karanlian)--Locally metamorphosed, carbonaceous, calcareous shale and sandstone and sandy to silty limestone. Includes sills and dikes of gabbro
  - Kva Yanert Fork sequence (Late Devonian)--Carbonaceous siltstone, slate, phyllite, and schist; impure quartzite and metachert, metagabbro, and marble interbeds. Also dikes and sills of gabbro
  - Kvf Flysch and associated rocks
  - Kvj Andesitic subvolcanic intrusive rocks (Late Cretaceous)
  - Kjk Flysch sequence (Early Cretaceous and Late Jurassic)--Gyrfalk turbidite, shale, siltstone, and conglomerate. Metamorphosed in southeast part of area.
  - Kjl Overthrust flysch-like rocks (Early Cretaceous and Late Jurassic)--Black argillite, thin beds of volcanic breccia and sandstone, and limestone overlain by thin-bedded chert. Sills and dikes of gabbro.
  - Kjc Conglomerate, sandstone, siltstone, shale, and volcanic rocks (Early Cretaceous and Late Jurassic)
- PLUTONIC ROCKS**
- Rvs Talkeetna superterranes (includes Wrangellia terrane)
  - Rcn Metavolcanic, metavolcaniclastic, and subordinate metasedimentary rocks (Late Triassic; late Norian--Marine basalt, tuff, slate, and diabase sills)
  - Rn Chitina and Nizna Limestones, undivided (Late Triassic; Norian and late Karanlian)
  - Rpm Nikolai Greenstone (Late and/or Middle Triassic)--Mainly subarcular flows of amygdaloidal basalt
  - PPV 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 tonalite, quartz diorite, and granodiorite, generally well foliated
  - Kjrt Tourmaline-bearing granite (Late or Early Cretaceous)
  - Kjum Ultramafic rocks (Early Cretaceous or Jurassic)--Pegmatite-bearing gabbro
  - Jgb Alkali gabbro (Late Jurassic)
  - Dmg Metagabbro (Late Devonian?)

SOUTHWESTERN AND WEST-CENTRAL AREAS OF QUADRANGLE

- SEDIMENTARY AND VOLCANIC ROCKS**
- Kja Argillite, chert, sandstone, and limestone (Early Cretaceous and Late Jurassic)
  - Jrs Red and brown sedimentary rocks and basalt (Early Jurassic and Late Triassic)--Red sandstone, siltstone, conglomerate, and basalt overlain by brown sandstone and siltstone
  - Rlb Limestone and basalt sequence (Late Triassic; Norian?)
  - Rr 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)
- Flysch and associated rocks**
- Kjll Flysch sequence (Late Cretaceous to Late Jurassic)
  - Jrt Crystal tuff, argillite, chert, graywacke, and limestone (Late Jurassic to Late Triassic?)
- Rocks of unknown terrane affinity**
- Rcg Conglomerate and volcanic sandstone (Late Triassic; late Norian)
- Nixon Fork terrane**
- Dob Sedimentary rocks sequence (Middle Devonian to Ordovician)--Black argillite and siltstone, massive limestone (ls), thinly bedded limestone, and chert
- Flysch and rocks of unknown terrane affinity**
- Kji Flysch sequence (Early Cretaceous and Late Jurassic)--Some rocks as well Kji in eastern and southern parts of quadrangle
  - Rbd Basalt, diabase, and subordinate sedimentary rocks (Late Triassic; Karanlian and Norian)
  - Rps Flysch-like sedimentary rocks (Late Triassic to Pennsylvanian)--Impure sandstone, siltstone, and shale; minor limestone and chert
- Tectonic melanges**
- Kms Melange south of McKinley fault (Late and/or Early Cretaceous)--Dark gray flysch, chert, tuff, volcanic sandstone, and blocks of limestone (ml)
  - Kmn Melange north of McKinley fault (Late and/or Early Cretaceous)--Similar to unit Kms but contains recrystallized limestone (ml) and ophiolite rocks (mo), mainly serpentinite, basalt, and chert
- 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**
- 673 Sample locality and number

CORRELATION OF MAP UNITS  
ALL AREAS OF QUADRANGLE



GEOCHEMICALLY ANOMALOUS AREAS IN THE HEALY QUADRANGLE, ALASKA

- 15**
1. Big Grizzly Creek
  2. Chulitna district
  3. Edmonds Creek
  4. Honolulu
  5. Nenana Mountain
  6. Polychrome Glacier
  7. Reindeer Hills-Pyramid Peak
  8. Tertiary Nenana Gravel and coal bearing rocks
  9. Upper Jack River
  10. Upper Revine Creek
  11. Valdez Creek
  12. West Fork Glacier
  13. Western McKinley fault
  14. Wrangellia terrane
  15. Wyoming Hills
  16. Yanert Glacier
  17. Yukon-Tanana terrane