TITLE:

DENALI

Geology Overlay

LOCATION: A-1,6/B-6/N-7,8 Quads, Alaska		DATE: 4a
SCALE: 1:63,360	DATA BY: W.T.E.T.B.M.M.	DATE: 11/80
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ANACONDA
GEOLOGY DEPT. - ALASKA REGION

-LEGEND-

INTRUSIVE ROCKS

F	Felsic composition - rock type subscript (F_{Gr} - granite, F_{Qms} - quartz monzonite)
I	Intermediate composition (I_{Di} - diorite, I_{Mz} - monzonite, I_{Grd} - granodiorite, I_{Qdi} - quartz diorite)
M	Mafic composition - rock type subscript (M_{Di} - diorite, M_{Gab} - gabbro, M_{DD} - diabase)
Um	Ultramafic composition - rock type subscript (Um_{Px} - pyroxenite, Um_{D} - dunite, Um_{Pd} - Peridotite, Um_{Opx} - Orthopyroxenite, Um_{CPx} - Clinopyroxenite, Um_{Htz} - Hartzburgite, Um_{WEH} - Wehrlite)
D	Dikes: BD - basalt, AD - andesite, RD - rhyolite, ApD - aplite, FD - felsic, DD - diabase, GabD - gabbro, PEG - pegmatite)

VOLCANIC ROCKS

R	Rhyolite
RD	Rhyodacite - quartz latite
D	Dacite
L	Latite
A	Andesite
B	Basalt
Qex	Quartz exhalite

VOLCANIC TEXTURES

agl	agglomerate (bombs > 32 mm)
lhr	lahar (mud flows)
tb	tuff breccia (> 32 mm)
lt	lapilli tuff (4 to 32 mm)
cgt	coarse-grained tuff (.25 to 4 mm)
aft	ash flow tuff (fine-grained welded tuff)
t	tuff
ltt	lithic tuff
llt	lithic lapilli tuff
xt	crystal tuff
cgxt	coarse-grained crystal tuff
f	flow
fb	flow banded
fbx	flow breccia
pil	pillow
ve	vesicular

MISCELLANEOUS ROCKS

CaS	Calc schist
GP,QGS	Graphitic phyllite, quartz graphite schist
DQX	Dolomite quartz breccia
GOS	Gossan
MS	Massive sulfide
BRX	Breccia
Vn	Qvn - quartz vein; Cavn - calcite vein

METAMORPHIC ROCKS

Meta-Vol./Int./Sed. - mildly metamorphosed volcanic/intrusive/sedimentary rocks which have recognizable original texture

SLIGHTLY OR NON-FOLIATED METAMORPHIC ROCKS

AM	amphibolite
Mb	marble
Qzt	quartzite
ARG	argillite
G	gneiss
Augn	augen gneiss

SCHISTOSE METAMORPHIC ROCKS

S - schist; P - phyllite

Labled according to mineral composition abundance
( ) indicates minor constituents

- [ ] Felsic composition - dominantly quartz ± sericite ± feldspar
- [ ] Intermediate composition - dominantly quartz + chlorite ± feldspar ± sericite
- [ ] Mafic composition - dominantly chlorite ± biotite ± feldspar

MINERAL ABBREVIATIONS

Q	quartz	M	muscovite
S	sericite	B	biotite
F	feldspar	Ank	Ankerite
C	chlorite	gt	garnet
Ca	Calcite	tc	talc

ALTERATION

arg	argillic
prop	propylitic
silic	silicification
phy	phyllic
sk	skarn
horn	hornsfelsed
tt	tactite

SEDIMENTARY ROCKS

- [ ] Zst - siltstone, SH - shale, Mst - mudstone
- [ ] SS - sandstone, AR - arenite, QAR - quartz-rich sandstone (arenite), AK - arkosic sandstone (feldspar rich), LAR - lithic arenite, CAR - calc arenite, VAR - volcarenite

CGL	Conglomerate
Grwk	Graywacke
CH	Chert
Ls	Limestone
Dol	Dolomite
[ ]	Tst - tuffaceous siltstone, TAR - tuffaceous arenite, Stt - silty tuff

SEDIMENTARY STRUCTURES

xb	cross bedding
gb	graded bedding
mcx	mud cracks
lm	laminated
dis	disseminated
rm	ripple marks
ltb	interbedded

CONTACTS

- defined contact
- approximate contact
- assumed contact

BEDDING

- inclined
- vertical, horizontal
- overturned

FLOW TOP

- inclined

FOLIATION

- inclined
- vertical, horizontal
- lineation
- fold axis lineation
- faultenspiegel

FAULTS

- inclined
- strike slip
- dip slip
- thrust fault

FOLDS

- anticline - antiform
- overturned anticline - antiform
- syncline - synform
- overturned syncline - synform
- strike and dip of joint, inclined
- strike and dip of vein, inclined
- strike and dip of dike, inclined
- strike and dip of dike, vertical

See Clearwater Geology Map 1:24,000 Scale