

PETROLOGY :- Summation

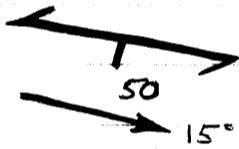
MoS<sub>2</sub> <sup>stratobound</sup> in syenite + lime silicate gneiss <sup>(c.s.)</sup> adj. to syenite

MoS<sub>2</sub> as clusters of grains or scattered grains or thin stringers in c.s. gneiss, in bi hb gneiss and <sup>lenses in the</sup> in syenite

Pyrrhotite common  
lots of magnetite locally  
pyrite

Pegmatite - folded into tight structures which  
plunge <sup>~ 15°</sup> ~~SE~~ SE. (synformal)

SYENITE PEGMATITE AND APLITE

Petrology

PEG Kspar plag bi zircon

sulphides pyrite-pyrrhotite-cpy-MoS<sub>2</sub> - magnetite - ilmenite  
cut by calcite veinlets w. chl, ep on late fractures

ALTN kaolinite - ep - chl - musc - rutile - sphene  
↑  
after biotite

APLITE similar but less bi, some fluorite

menzgn post-I pre-II folding? ((G. Wilson Report))

Reports deformed, colloform pyrite

Hand specs

PEG - euhedral  $MoS_2$  dissem.

kaolinite altn  $MoS_2$  dissem + in pockets

FRACTURE CNTL + DISSEM.

APLITE - "fresh" but minlzd

contact locally sharp

PEG - loc. has calcite matrix - shot thru w.  $MoS_2$  + some pyrite  
- large xls greenish

Comments from my visit

200 East Drive -

Testing 30' zone running 0.6 Mo on the average

~ 180 000 Tons <sup>mined</sup> millhead grade 0.85 Mo  
with 0.7% cutoff

6550 E-1 gneissic  
a biotite ferrohastingsite (?) syenite

"  
S  
Y  
E  
N  
I  
T  
E  
"

pleo. turquoise to green to brown  
does not extinguish under x nichols

magnetite - carbonate - sphere  
fs - chl -  
~~calcite~~ calcite veinlets Kspar >> plag  
fs bleached in halo

C — E-2 similar but Kspar / plag = 1.5 / 1  
R zircon fluorite

pink altn is sericite / carbonate + interstitial  
local resettes

— E-4 (CI ~ 28) no obvious foln :- bi-rich calcar. syenite  
Kspar (perthite) - plag loc at xl borders apatite  
bi - calcite sericite zircon large + small xls  
no biotite damage  
bi damaged

fluorite intergrown with calcite

6550 E-3-1 PEGMATITE

matrix mainly calcite

Kspar megacrysts 1"  $\phi$  or "crystal aggregates"  
perthite (Kspar/ab = 1.5/1 Ab twinned)

dusted with clay,  
some ser. altn  
local carbonate altn

MoS<sub>2</sub> in Kspar + matrix

pyrite, pyrrhotite - scattered + xl "frans"

Biotite - disseminated or in clumps

some muscovite in sheafs

magnetite / ilmenite "nodes"

~~E-3-2 APLITE~~

6600 - 675 HW - 3 Large Kspar xls in cg matrix

MoS<sub>2</sub> blebs in matrix pyrrho xls partly fill vugs

pyrite cubes + octahedra  
no evident vein cutl

Kspar - microcline perthite

plag - in perthite + along Kspar xl borders

carbonate - assoc. w. opaque

MoS<sub>2</sub> encloses Kspar carbonate + zircon

6550 E-5

~~6550 E-5~~

variably

PEG / APLITIC in lensoid layers

leuco or loc. mafic 10% local cg biotite  
lenses

MoS<sub>2</sub> + pyrrho fracture cutld

some cpy

calcite blebs

perthite (Kspar/ab = 60/40)

calcite - cg interstitial

MoS<sub>2</sub> intergrown with carbonate / ser / Kspar

zircon - frans of small xls enclosed in Kspar



6550 E-3-2

"APLITE" - grain size more variable than it looks from a casual glance  
Foliated biotite aplite

Jale Green

zones + lenses enriched in bi + pyrrhotite  
mos<sub>2</sub> - blebs in calcite pods  
Pyrrhotite / mafic vein

kspars - perthite  
plag (An<sub>12</sub>) — stress twins  
biotite - red brown  
garnet (grossularitic?)  
calcite - irregular patches  
zircon  
clouded by ser/carbonate  
altm

~~6600~~

6600-675-HW1 local mafic - enriched zones (25%)

↑  
aplite

mos<sub>2</sub> streaks w lesser pyrro + pyrite

kspars - perthite  
zircon  
biotite

--- HW2  
↑  
aplite

magnetite / ilmenite cut by MoS<sub>2</sub>

mos<sub>2</sub>, pyrite/pyrrho ... blebs + fracture fillings  
local ser. altm w. best MoS<sub>2</sub>

level 200  
6600 N Drive #1  
PEG

~~pegmatite~~

syenite with peg pods  
peg - pods of bi

also Aplite with PEG pods

" " min Zn { pyrite  
pyrrho  
mos<sub>2</sub>

Kaolinite altm fairly abundant at face

PEG, 200-1 matrix of sample richly mixed  
anastomosing kaolinite veins

kspars

carbonate

QUARTZ

interstit + open-space filling

pyrite - loc. <sup>fract.</sup> qtz-filled

mos<sub>2</sub> assoc w sericite/carbonate

XRAYED  
200-1  
KAOLINITE  
  
XRAYED  
200-2A  
Musc + KAOLINITE

6600-200-7-1

microcline

SYENITE

plag - patchy appearance... albitized locally

Bi - brn

loc. chl.

zoisite ?

carbonate

apatite

opaque

7-2

mafic/leucocratic syenite contact

bi

plag (An<sub>10</sub>)

Ksp

Fluorite

plag

perthite

bi → chl. locally

Carbonate

Fluorite

pyroxene - rare - green pleo

6550 E X cut 10000 Tons > 1% Mo mined

3' of 1% left in "the back"

SYENITE gneiss

6600-200-2

Kspar → ser

ser./ carbonate veinlets

Quartz veinlets

zircon

ALTERED Rock

6600-200-3

Dker zones

Plag

calcite

Sericite

MoS<sub>2</sub>

carbonate-rich zones

calcite

sericite - as plates, in veinlets in fs & pervasively replacing fs

Quartz - secondary + vug-filling

1.5  
1  
1/25 4/10

SYENITE

6600-200-4

Kspar - some perthite (microcline)

some plag.

biotite

carbonate - interstitial

zircon - small xls in trails, larger grains fluc

pyrite - string out along foln & disseminated

apatite

FLUORITE Assoc w opaque OR carbonate

SHOT THRU W. PEG PODS UNDERGRD - CONFORMABLE

PINK ALTH A FORMS RHOMBIC NETWORKS

SYENITE

6600-200-5

Kspar... perthite

Plag... mod. ser. alt.

Bi... chloritized, alt. to muscovite  
↳ brown

undergrd - has peg.

peg. (some red. well minlzd)

fs up to 3" Ø

carbonate, fluorite

Hematite, magnetite

zircon - xl trails & clusters ... detrital-looking

PYRITE, PYRRHOTITE  
some MoS<sub>2</sub>

MoS<sub>2</sub> - conc. at borders of

large xls + disseminated

PEG - locally X cuts foln



# PETROLOGY

Aplite / PEGMATITE contact gradnl to sharp between them  
mafic layers - bi - pyrroho. enriched

Dominant mineralogy Kspar biotite calcite (xls)

zircon xl "trains" - enclosed in Kspar

Sulphides

Py pyrroho cpy MoS<sub>2</sub> mag / rlm

xl "trains", dissem.

veins

Calcite

MoS<sub>2</sub> cuts mag / ilmenite

someone else Late fr.

chl - ep

altm -

MoS<sub>2</sub> - dissem

- fract cutled

- in pockets

- intergen w carbonate / ser / Kspar

- best Mo has assoc ser. altm

VUGS partly filled by pyrroho, pyrite

calcite assoc. w. opaques

MoS<sub>2</sub> - inclusions of

Kspar cal. zircon

Peg. locally has calcite matrix

'shot thru' w. MoS<sub>2</sub> + some pyrite

large greenish Kspar xls

xls or xl aggregates

some have 40% exsolved plag.

Biotite - dissem, clumps

mag / rlm. "lumps"

Aplite Kspar

ohys close

Bi - red ~~layers~~ brown

garnet

~~recumbent phase one fold.~~

### Sy. ALTN

altn - syenite

calcite altn + veins

fs - chl - cal veinlets

ser/cal --- pink

kaolinite

Bi → <sup>dl.</sup><sub>A</sub> musc

### PEG / AP ALTN

kaol - ep - chl - musc - rutile - sphene

fs altn + veins

Fs → kaol.

kaol. ~~kaol~~ / sericite

ser / carbonate altn

Quartz - veins

- interstit.

- in vugs

minlyn post 1 pre 2 defmn ?? G. Wilson

40/100 = 40%



Property maps

- Peg in form of plunging syncline S or SE  
48°? 58°?

|| to phase 2 plunges

- mapped by Bob Freizer [for Mel Robinson]

- may be a fault on the job

- How constant is the plunge of the fold -  
other limbs?

Phone # of Mine office

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Revelstoke

