Aug 14th

Mountain E of EROS (across valley) 020394 snow showers cold

1003 med to thick bedded pale tan to pinkish buff grained sandy dolomite w/ narrow interbeds of fine to med grained black qtzite

Bedding @ 136/50 SW ex

1004 tan to med grey weath., med to pale brn and grey brn v. calcareous phyllite siltstone and lining phyllite Has interbed ~ 10m thick of d. purplish brn weath med to dk grey phyllite – not noticeably carbonaceous

So 11 S1 (compound layering) @ 020/29 SE ex

much deformed by later warping

1005 med grey to orangy-tn weath
med grey brn lumy phyllites

compn layering || S₁ @ ~~03~~ 133/52 NE ex

- intruded by non foliated Kspar porphy (hbl monzonite) dyke @ unknown orientⁿ

1006 contact between lumy phyllites w/ large (to ~~m~~ thick) qtz lenses on the E and flaggy weath med grey to med brn. thin-banded calcareous siltstones. In phyllites →
So || S₁ @ 119/45 NE ex

The flaggy calc siltstones have pyrite porph blasts to 2mm dia conc in narrow bands
w/ S₁ @ 158/~~47~~ SW ex
& So @ ~~010~~ 110/62 N ex

much bull qtz in the flaggy siltstone

DUKSBAK WATERPROOF

100% black siliceous phyllites w/
narrow interbeds (1 to several cm
of f gr med gray silt stone. Also
a layer of fabric, pale to med brn aren
lapilli tuff
Sol 15, @ 103/27 N 9x

uJM + Mut — as in EROS
drill core

Anise claims Aug 16th/80

low overcast

1008 sl. to moderately rusty weath, sl. to non calcareous carbonaceous phyllite & f grained schist

compn banding || S_1 @ 020/10 NW ox

1009 black phyllite as above w/ narrow (< 30 cm) interbands of sl. rusty weath, mod calcareous biotite, mod brn meta tuff (?)

compn layering || S_1 @ 015/43N e

L_2 cren^n wrinkle lineation @ 253/42

1010 non calc, rusty weath, carb phyllite as above w/ narrow (< 1 → 8 cm thick) interbands of sl. calc. siltstones that are sl. paler grey than the bulk of the rock
Much calcareous drus on the OK

compn layering || S_1 @ 060/19 NW ex

- a well dev. cren^n lineation (L_2) dev on S_1 surfaces @ 272/19 ex

1011 thinly inter layered calcareous & rusty weath carbonaceous black phyllite and fine grained schists and dk grey and white striped med grained marble

S1 // compn layering @ 158/79SW ex @ bottom of o/c

and @ 013/20 NW (ex) @ upstream side of o/c

1012 black med grained micaceous marble w/ disseminated pyrite blebs to 2 mm diameter

compn layering // S1 @ 037/30 NW ex

- unit has a mottled texture (patches of pale grey carbonate to 0.5 cm dia in black groundmass)

- pyrite concentrated in white to pale grey marble bands
- locally bx zone after pyrite is present — euhedral cubes to 1 cm diameter

1013 · non calcareous black phyllite. Contains both narrow lenses (< 3 mm thick) of pyrite and pyrite cubes to 1 cm dia

So not visible
S. @ 079/35 NW ex

1014 thinly banded massive weath med grained dk grey and white striped marbles, locally of muscovite

S. // compn banding @ 019/25 NW ex

1015 thinly to inter banded pale tanned grey calcareous chlorite metavolcanic and cream, rusty weath med grained marbles. Rare inter beds of rusty weath non calc. black phyllite
S // compn layering @ 033/40 NW good

1016 interbedded (scale of < 1 m) med green highly calcareous chlorite phyllite brn weath highly calc. meta volc and highly calc non calcareous black phyllite

S // compn layering @ 005/50 W ex

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1017 thinly bedded cream and dark grey rusty weath mod. grained marble w/ black phyllite partings and highly calcareous pyritic black phyllite

S, // compn layering @ 076/23 N (ex)

1018 pyritic highly calcareous CL>MS phyllite (rusty weath) w/ abundant qtz ± veining interbedded w/ marbles as above

S, // compn layering @ 090/37 N good

1019 dk rusty weath non calc, carbonaceous siliceous phyllite.

So // compn layering @ 025/41 (ex) Mar

1020 dk. rusty weath non to mod. calcareous black phyllite w/ abundant qtz ± carbonate stringers

S, ——> @ 012/19 NW ex

1021 bluff to sl. rusty weath sl micaceous felsic metasediments or v. siliceous gneiss

S1 poorly dev. @ 031/13 SE/ex

So not visible

1022 sl. calcareous rusty weath black phyllite. Poorly defined subtle layers

S1 ll compn layering (faint color banding) @ 049/27 NW/ex

appears to strike ~ll the gneiss

Anise claims Aug 17th
low level cloud, occasional
sun, occasional rain

1023 stained fine to med grained
massive weath pink and green
mottled syenite

vaguely foliated (fluxion texture)
@ 098/645 az

1024 large rotated blocks to 5m dia
(S/C) of chloritized pyritic
fine to med. grained syenite
Med brn weath dk greenish grey
fresh. Non - magnetic

1025 large rotated blocks (to 5 m dia)
of cs. to med grained pyritic
syenite as above, w/ diffuse
zones of finer grained biotitic (?)
syenite - v. dk grey brn fresh

prob metasomatized syenite ∴
it occurs within 10cm bdy of cs. grained
unaltered syenite

DUKSBAK WATERPROOF

1076 massive cs gr. dk. pyrite, red pinkish brn syenite

1077 ferrocrete cementing large sub-rounded boulders to 2m dia of dk green massive chloritic metavolcanic, massive rusty-weath chloritic cs gr. magnetite; and med grained pyritic syenite

– are these the cause of spot magnetic highs? – probably

1078 cs grained locally rusty weath pyritic pink to creamy brown syenite Massive. Pyrite occurs as cubes to 1mm dia. often both disseminated and as fracture fillings. No other sulphides present

1079 v. rusty weath v. pyritic cs grained syenite. Pyrite fills fractures in the rocks. Fractures are randomly oriented, has appearance of a "shatter zone". Only Pyrite is present, no other sulphide

1030 rubble pile of large (to 2 m dia) subangular boulders of aphyric to porphyritic metavolcanic (intermediate to basaltic compn) locally v. concentrations of magnetite and/or pyrite (see sample)
v. rusty red to med green weath

1031 magnetiferous and pyritic meta volcanic as above. in part appears to show relict igneous texture = may in part be a v highly chloritized felsic intrusive - possibly (but not likely) Mesozoic

1032 thin banded pale grey brn to dk grey siliceous phyllite (meta tuff? shale?) in angular S/C. Na pyritic, non calcareous

1033 massive to well foliated, med green to brn weath magnetiferous chloritic metavolcanic. Dark green on fresh surfaces

foliation (S_1) @ 034/74 N ax

Traverse down E side of Aug 18th
Mt. Misery (SE of E?OS)
- low overcast, occasional sun
1034 basal contact of Aiken unit. Thin bedded fine and cs grained non calc, pale to med grey qt'zites conformably overlie non calc black phyllites w/ irregular silty bands. Contact is gradational — minor interbanding over ~ 2m @ contact

Bedding (So) @ 025/34 NW ex

- spent 30 minutes looking for graptolites in phyllites - none found

1035 contact between black phyllites as above and underlying interbedded phyllitic orange-grey weath siltstones and limy phyllites and dark maroon-grey weath locally calcareous volcaniclastics (w/ Kspar (?) porphyroblasts to 1.5 cm). The volcaniclastics consist predominantly of dk. maroon med grained material w/ same recrystallized texture as seen on NW side of Mtn Misery - unknown minerals. Also have thin interbeds of med to dk green f grained chlorite schist.

So @ 162/24 W ex
- volcaniclastic / limy phyllite interbanding is on a scale of 5 → 20 m

1036 Interlayered non calc maroon and green reXtallized volcanic as above and sheared pale to med brn locally rusty weath, calcareous metavolcanic — green spots (chloritized mafics) and Kspar(?) porphyroblasts or relict phenos in a pale brown med grained groundmass — highly sheared — may be intrusive - possibly MUt?

$S_0 \parallel S_1$ @ 162/22 W ex

Section is both overlain and underlain by limy phyllites

1037 tan to sl. orangy tan weath dk grey limy phyllites and phyllitic highly calcareous siltstones and marbles.

S_0 @ 122/56 NE good (overall)

S_1 @ 108/29 N ex

S_2 poorly dev crenulation @ 095/90 ex

mesoscopic F_1 fold (λ = 1.5 m) @ 104/00 (fair)

S vergence.

F_2 crenulation crinkles @ 096/10 fair

1038 dk maroon and calcareous med brn metawackes (volcaniclastics) as in △1036. Maroon argillite contains narrow bands of rusty weath fe-carbonates

S0//S1 @ 050/24 SE ex

1039 sequence of dk maroon volcaniclastics over-lain by black phyllites & dk grey fine grained qtzites (section is ~15 m thick) overlain by thin to med bedded SD qtzites & dolomites

S0 @ 023/23 SE ex

samples from the qtzites w/in the black phyllite section

1040 fine grained tan weath, med gray, sl. dolomitic qtz ssta med to thick bedded

Bedding @ 141/20 SW ex

1041 buff to tan weath, locally sl rusty, non calc, non dolom, fine to med grained qtz sstn. Good cross bedding present ⇒ tops up

Bedding @ 088/34 N ex

21

1042 sl. rotated blocks of tan to pale gray weath limy phyllite

1043 buff to rusty tan weath sl. dolomitic med gray f-grained qtz sstn.

Bedding @ 123/42 NE ex

1044 buff weath massive fine grained dolm qtz sstn.

1045 massive med gray f-grained qtz sstn.

1046 sl rusty weath v. siliceous black phyllite thinly interbedded w/ felsic volcaniclastic

So @ 162/13E ex

1047 Thinly bedded & pale to med brn weath meta tuffs or tuffaceous siltstones

Bedding @ 017/14 E ex

1048 calcareous med to dk gray phyllite w/ abundant cs gr marble veins and lenses (some of ferroan carbonate) and med to dk green chloritic metavolcaniclastics w/ orange weath ferroan carbonate lenses

u EOglv

1042 Pale green to pale grey brn f grained volcaniclastics and volcanic sandstone

Bedding @ 005/27E ex overturned Black shales in S/C

1050 Sheared rusty orange weath rock to cs grained volcaniclastics and carbonaceous felsic lapilli tuffs.

S. @ 069/19SE ex

So not visible

Between Seagull Lakes & headwaters of McConnell R. Aug 19th /00

1051 massive med grey brn to pinkish brn weath dolomite

Bedding not visible

1052 med to thick bedded med grey brn sandy dolomite and dolomitic fine-grained quartz sandstone

Bedding (S0) @ 005/37 E (ex)

S1(?) locally well dev @ 050/48 SE (ex)

1053 thick bedded dolomitic qtz sstn and sandy dolm

Bedding @ 052/38SE (ex)

1054 sheared phyllitic qtzite. Dk grey. May be in part a quartzose siltstone. Maybe basal Askin or possibly Road River — Askin thrust sheet sliding on basal Road River layer?

S/c only.

- also in S/C is a foliated pale to med grey green pyritic metavolc — pyrite cubes to 2 cm dia — probably M+

Ridge E of Amse   Aug 22/80

low hanging clag, occasional heavy rain showers

~~1060~~ Snowing !! after 11 Am!!

Note: connecting cut line from Amse to Bed (Line 112) bears 072°
along S edge of Bed grid

1060 massive red to dk grey weath
variably altered (i.e. to mod)
cs gr syenite –

1061 massive cs altered syenite as above

Note: lines from NW corner of Bed grid as follows

B/L 40W 96S is corner
[illegible] line [illegible] [illegible]

B/L @ 162° crosslines
@ 072°

1062 cs grained mod grey-green
Hbl-bearing biotite syenite
Massive ~~[illegible]~~ blocky weath

1063 med rusty brn weath. either highly sheared syenite or foliated felsic lapilli tuff (probably the latter)

Fe only. If tuff, it is forming a very small "patch" on the surface of the syenite body

1064 fine grained rusty brn weath qtzite or felsic tuff. May be in part hornfelsed (is w/in 10 m of syenite contact). Abundant qtz - carbonate veining, locally w/ cs grained pyrite or galena.

Bedding (defined by faint banding in the rocks and preferred breakage surfaces) @ 089/26 S ex

1065 Foliated red to dk grey lapilli tuff. matrix is v. carbonaceous. Rare black phyllite clasts are present.

foliation @ 058/[illegible] SE ex

1066 poorly to moderately foliated
pale to med grey green weath
med to dark grey green metavolc
or meta volcaniclastic. May be
a highly chloritized version of
Mvt
All in slump blocks

Very abundant qtz ferroan carbonate
vein ~~too~~ material present in
talus

1067 talus and S/C of rusty weath
coarse grained qtz carb vein material
as above, plus silicified and/or
hornfelsed black phyllite, fine grained
magnetite ± pyrite rock, ~~pad~~ plus
dark to med green meta volc as above
- appears to be a skarn assemblage
near the syenite body

1068 S/C pale to medium grey phyllitic
siltstone or fine grained tuff

m nearby S/C S1 @ 126/43 SW

1069 foliated/sheared med brn weath lapilli ± crystal tuff or possibly sheared syenite — probably tuff

S, @ 088/465 ex

1070 med grained pyritic syenite pale grey to med grey-brn weath. Massive and foliated. Pyrite occurs as irregular blebs and as cubes to 2 mm diameter

1071 striped pale to dark grey calcareous siliceous phyllites w/ pale grey siltstone bands, and white weathering thinly laminated siliceous siltstone — [illegible] only.

DUKSBAK WATERPROOF

Ridge east of House | Aug 25/80

Note B/L 010 W 43+50 S is flagged — located @ 4430'

1072 sl. sheared cs. grained pink syenite (f grained hematite) Rare qtz grains to 2 mm. All rotated blocks, many with slickensided edges

1073 O/C of sheared syenite. Degree of shearing varies considerably and irregularly across the O/C. Some parts are cs grained relatively unsheared equigranular syenite with ~ 5% chloritized mafics. Other parts are strongly sheared fine grained (recrystallized) masses with local development of meta muscovite on the shear surfaces. The finer grained rocks tend to be slightly greenish throughout

2 samples

Foliation (approx) @ 090/52 N good

1074 massive ~~e~~ equigranular syenite w/ trace euhedral pyrite and no qtz content. % chloritized mafics is increased — to ~20%, giving rock a mottled green/pink appearance. Mafics appear to have been ~~e~~ hbl and were interstitial to cs. grained Kspar.

Note △1074 is on a bearing of 062° from BL 0 W, 43+50S ~100-150 yds away

1075 equigranular med. to cs grained syenite as above w/ ~10% mafics

Much M.A. tuffs and tuffaceous cherts (?) coming down in float from above

1076 Thinly laminated (bedded) cream to pale green to med gray v. siliceous phyllites and ~~pst~~ phyllitic qtzites (meta tuffs and interbedded tuffaceous and carbonaceous cherts)
Strongly foliated (poorly dev. lithons locally visible). A later crenulation wrinkle (L_3?) is present on the phyllitic surfaces @ a high angle to the S_0/S_2(?) lineation
S/C only

1077 tuffaceous phyllitic qtzites meta
tuffs and siliceous phyllites
as above in S/C. Carbonaceous
phyllites becoming increasingly
abundant

1078 contact between phyllites and
Mnt tuffs as above w/ fine
grained chloritized syenite
Also large subangular blocks of
highly chloritized mafic(?) or
intermediate v/ volcaniclastic occur
as rubble Locally highly pyritic
+ rusty weath zones within the
f grained syenite near the contact
Actual contact covered by rubble

W of Seagull Lake (on road)

1079 med to thick bedded buff to
pale grey massive dolomite and
dolomitic sandstone

Bedding @ 052/34 SE ex

appears to directly (conformably) overlie
limey phyllites

1080 Grey phyllite & phyllitic silty red-grey limestone (thin bedded) with red to dark grey volcanics or highly sheared volcanic interbeds

all in slumped blocks

1081 Grey phyllite directly overlying uDM black phyllites in LCPs ⚠ 1241

So/Ss @ 063/10 NW good.

Ridge E of Arisie Aug 26th
CAVU - cold
no wind

1082 pale to dark grey, sl. rusty weath
phyllite and phyllitic siltstones

So (bedding) @ 000/29 W ox
S1 (?) @ 145/38 SW ox
↖ pervasive foliation, no lithons visible
S1/So intersect (F1) @ 268/32 ox

1083 as above but more thinly
laminated - cream to dark grey
some bands sl. porous and granular
in appearance - probably tuffaceous

So @ 075 / 17 NW ox

S1 not dev.

1084 massive sl. pyritic, sl. rusty
weath, equigranular cs. grained
syenite - ~ 10-15% mafics.
Has irregular mafic border
zones - rich chlorite much
epidote - hydrothermal alt^n of
syenite? But green fresh. Rusty
brown weath

2 samples

1085 contact between v.f. grained felsic syenite (<5% mafics, of rusty weath) and thinly banded (bedded) metasediments as in △ 1083.

Contact is a steep fault, oriented
@ 003/76E (ex)
w/ steep slickensides @ 035/65 (ex)
- can't work out sense of slip
Bedding in seds @ 155/29 SW ex

Beds of chert pebble and cobble conglomerate to 1m thick (pale grey to black chert frags, subangular to rounded in dk grey matrix are interbanded w/ the metaseds

1086 massive, locally sheared chert pebble cglm. Clasts to 4 cm diameter sub-rounded pale grey to grey green frags in pale grey non calc. matrix

Occurs just above upper contact of syenite on E side of fault

1087 cs grained felsic (<5% mafics) syenite in contact to east (in S/c) w/ highly carbonaceous phyllite

1088 pale green sheared f. grained syenite or felsic metatuff in S/c

1089 massive pale green fine to med. grained syenite. Pervasive green color (epidote?) in addition to <5% dk green chloritized mafics.

1090 red to dk grey banded siliceous phyllite and phyllitic pale grey siltstones

- all rotated blocks

1091 as above. bedding @ 078/56 NW

S1 not visible

1092 Askin thick bedded massive pinkish dolom and thin bedded dolomitic qtz sandstones.
bedding @ 142/27 SW ex

Appears to be in the steep fault contact to E w/ uDM v. carbonaceous shales.

- fault trends 150° ± 20°

1093 3 samples — badly mangled slabs of thoroughly structurally below the Askin @ ± 1092 dipping v. gently to the NE. Consists of f grained metabasite w/ very vague pillow structures, blotchy recrystallized ultramafics? w/pyroxenites fine grained diabase, and v. rusty weath qtz-carbonate rock. This unit structurally overlies uDM black phyllite. The meta basin panel is approx 100-150 ft thick

1094 v. thinly laminated cross bedded sl to moderately calcareous medium to dk grey siltstones w/ phyllitic partings. Muck calc. druse on weathered surfaces. X bedding shows tops are up (see sample)

Bedding @ 126/05 good.

prob uDM, not Askin

1095 s/c of rusty weath non-calc black phyllites

uDM

1096 cs grained pale to med grey marbly
w/ schistose (muscovitic) partings

V strongly deformed by F_2 — can't get
sense of original bedding.
S_2 crenulation clvg well dev @ horizontal
lithon axes @ 105/00 ex
(Z vergence on lithons & F_2 minor
folds)

Askin

1097 med to dk grey banded rusty weath siliceous
phyllites. V. blocky weath

Much deformed by F_2

S_2 @ 125/17 NE good

L_2 (F_2 axes of lithons) @ 121/00 fair

1098 phyllitic pale grey to buff weath f grained
marbles and highly calcareous phyllites
Locally looks ~~the~~ somewhat like uEOs1,
but on the whole, the unit is more
typical of Askin

Pervasive S_2 @ 082/46N ex
L_2 (lithons) @ 085/00 ex
Nearby O/C of sl. phyllitic marbles — S_0
@ 100/55 ...

1099 phyllitic fine grey marble — Astin
assoc w/ pink weath massive
dolm (in S/C)

Pervasive Fr @ 112/11 NE on
Lr crenul wrinkle
@ 087/00 good

go to 1300's

July 10th, 1980 LCP

HOWRU TRAVERSE
SUNNY and CLEAR in A.M.

1100 Limy Phyllite (Vangorda)
S_0 compositional lyring 160/30E
S_1 flttn generally subparallel S_0
S_2 crenulage 25/10W
Medium grey, very $CO_3^=$-rich phyllite
Weathers to thin platy, fissile talus slope.
Weathered color is pale brown. Much more $CO_3^=$ rich than typical Vangorda
Bedding generally visible as thin grey carbonate bands every 1-2 inches (only 1/4 inch thick)

1101. Limy Phyllite.
Looks just like Rabbitkettle in Ragged Range. Interlayered silthy, limy phyllite and good grey marble. Lyring on scale of up to 1 inch. Carbonate boudinaged. Silthy weathers to a pale tan and carbonate weathers grey

S_0 comp. banding 115/60 S

S_1 subparallel S_0

Also have the limy phyllite of station #1100

1102 Limy phyllite

Weathers to light to silvery grey platelets

S_1 flttn 100/35S

S_2 cren. cloge 100/75 S

S_2 structures have N vergence

S_0 comp banding 160/40W

S_1 flttn 100/70S

L_1 S_0 on S_1 270/45

Thin compositional banding looks like a silty appearance with pinstriping

S_0 40/25NW

S_1 80/35S

S_1 & S_0 at large angle in this area.

Rock reacts only slightly to acid (10%) - either slightly calcareous or dolomitic

1103. Dark grey to black poorly foliated shale. Noncalcareous. Contains bedding visible as thin bands of darker & lighter grey. No coarser clastics visible.

Contains thin layer of felsic metavolcanics. See grey qtzite to musc qtzite with minor disseminated pyrite. In places massive with minor qtz eyes locally. Also get coarse clastics — lithic clasts containing small qtz grains

Metavolcanic sequence mark this as UDM

Angular clasts are flattened in fltn

S_1 fltn 140/60NE

1104. Dark green, dominantly heterolithic volcanic breccia. Clasts include epiclastic & massive volcanic rocks. Some massive flows. Colors are dark purple & dark green. S_1 fltn poorly & variably developed. Massive material includes chlorite ± calcite stretched amygdules

S_1 fltn 110/60S

1105. Came up largely through what looked to be volcanic conglomerates. Most clasts rounded. Differing development of S_1 / flt_n. Minor carbonaceous phyllite. One band of volcaniclastic weathers orange-brown because of abundant carbonate.

S_1 / flt_n

Rocks dominantly dark green and deep maroon looking to W – see light grey unit in between 2 dark green volcanic layers.

Massive flows variably vesicular. Vesicles contain chlorite ± calcite. Has a green mottled appearance from dark green chlorite in vesicles.

1106. S_1 / flt_n 120/40S

Chloritic phyllite. Well developed S_1 / flt_n. Clean surface shows it contains rounded volcanic lithic clasts.

1107. S_1 fltn 120/90

Massive dark green chlorite mottled phyllite. Possibly contains elongate pillows on weathered surface.

Thin lens of light grey limy phyllite. Contains boudins like typical Rabbit Kettle

1108 Chlorite-mottled, well foliated chloritic phyllite to two locations. Locally vesicular

Band of limy phyllite within the greenstones.

Pencil rodding strong because of intersecting cleavages

S_1 fltn 90/80 N

S_2 fltn 15/10 W

S_0 compositional layering transposed parallel S_1

Part of phyllite unit slightly thicker bedded with dark grey carbonaceous phyllite clasts. Intraformational congl. - rip up clasts

Ridge to east at orient 110° also contains a light grey layer sandwiched between 2 dark metavolcanic sequences

As go west along ridge - encounter Rabbit Kettle-type banded phyllite. This becomes more chloritic & contains grey shale clasts. Then ~~massive~~ calcareous light green soft phyllite - thinly banded. And finally back into vesicular flows -

S, flow at S end of unit 95/45 N

1109. S, flow 110/65S

Coarse volcanic conglomerate. Heterolithic. Contains carbonate + light green chloritic phyllite clasts. S,F/tn cuts through both clasts & matrix. Clasts elongate in S,. Matrix is dull green to grey - phyllitic

As go South

40' of black or dark grey noncalcareous phyllite/shale.

Then into buff-weathering dolomitic sandstone ~~to~~ and solid grey orthoquartzite - ASKIN

Buff qtzite contains thin swell blebs of disseminated pyrite

1110. Small knob of chloritic volcaniclastics. ASKIN just off to NE about 100 feet. Rubble pile of grey to dark grey phyllite between ASKIN volcaniclastics

S, flt 110/90

1111. S, flt 90 Hz/60S

Dark grey, noncalcareous phyllite. Contains roundish regions of dark grey coarse qtzite with shale lithic clasts.

In midst of dark grey phyllite have massive dolomite + green chloritic foliated volcaniclastic

1112. Massive grey ASKIN orthoqtzite

S, flt 105/80S

Just to north have clastic limy phyllite unit. Looks similar to stop #1109. Boudins in this case are dolomite rather than calcite. No readily visible intervening black shale — may be covered by scree.

See large striations on near vertical face of ASKIN right at the contact. These are slanting down toward W on S1 at roughly 30°. May be slickensides or else glacial?

1113 Pale cream – when fresh it is white – ASKIN orthoquartzite. Massive – small hillslope outcrop sticks out from talus debris Noncalcareous

Definite black to dark grey, noncalcareous phyllite outcrop in bottom of gully directly above this location

1114 Gully at 5500' – directly upslope. Small stream-gully outcrop

S1 fitn 120/70S

Black calcareous phyllite with thin boudinaged dark grey limestone layers

S1 surface of phyllite shows thin So compositional striping

At 5540' - S, ftln 120/40S
So lying 120/85N
Pale green poorly foliated phyllite
Fine-grained, noncalcareous.

5660' Black shale with minor
thin dolomite interbeds Phyllite is
calcareous. S, gently dipping into
hill - not measured because may be
slumped
Rest of gully uphill consists of abundant
subcrop of black phyllite chips.

EROS CLAIMS Aug 11, 1980 LCP

1115 S_1 flm at 5600' in gut
S_1 135/25S - at lowest extent of outcrop
MVT limonite-orange weathering outcrop

1116. S_2 flm 70/40N
S_1 flm 45/25NW
Dark grey to black, well foliated phyllite.
S_2 crenulations cloge locally well developed.
Qtz veining common in region of S_2 cloge

1117. Noncalcareous, pyritic, felsic tuff
Mvt Small stream outcrop-
grist barely present.
S_1 flm ?? not readily apparent
Muscovite-bx chlorite. Veins of qtz + feldspar?

HOWELL AUGUST 12 BOLC

1118 Light grey weathering, massive dolomitic sandstone. Unfossiliferous. thick-bedded with beds being ½ ft to 2 ft thick

So bedding 95/30S

1119. Buff-brown weathering thick bedded to thin bedded dolomitic sandstone. Weathers to massive appearance although can see thinner bedding on surface

This unit - although different colored - is identical to last station. In fact can trace same bed laterally from grey to buff weathering. Probably related to slightly different Fe content (cement?)

So bedding 75/20S

1120 ASKIN - very buff weathering calcareous sandstone. Contains thin boudinaged layers of orthoquartzite which is not calcareous - weathers to a grey color

Bedding begins to steepen up in this area.
So bedding 105/50S

1121. Black to dark grey calcareous shale and siltstone. Contains disseminated pyrite. One thin grey chert bed is probably metachert.

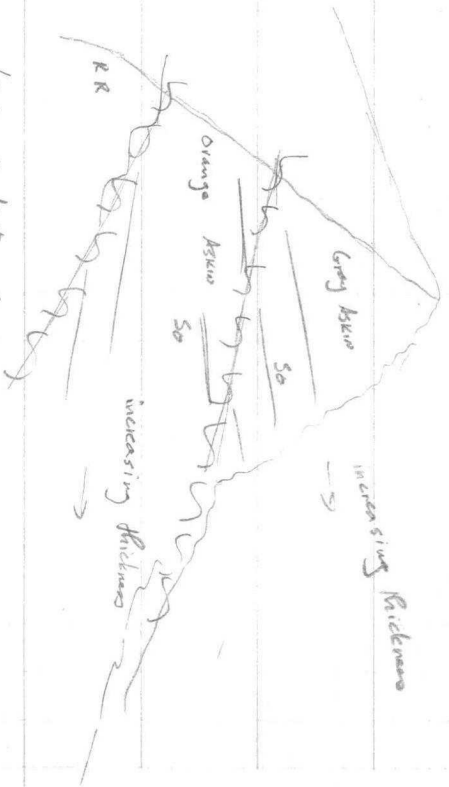
So ≈ S1 flat 125/40S

Contact with overly ASKIN is at least partly tectonic. ASKIN section truncated against black phyllite as come uphill to the east. To west lower slope get increasing units of ASKIN

Lower ASKIN is very buff-orange weathering. Massive to flaggy. Contains massive oolitic unit. Oolites concentric with qtz, calcite, chlorite in core.

Drawing of front face of ASKIN KNOB with Road River base. looking generally South

Have to explain the observed features by 2 faults - one on each side of the orange weathering lower ASKIN (Suggest orange unit cut out to the East)



S_1 fltn in EO volcanics just to N of RR

S_1 105/60N

bedding? & S_1 both dip steeply to the North

S_1 115/80N

1122. EO volcanic sediments. Dominantly dark green & maroon chlorite mottled greenschist. Massive & volcaniclastic. Thin bands of limy more phyllitic material. So bed & S_1 are subparallel - and very steep

S_1 fltn 105/85N

1123. limy phyllite. Very calcareous - not excessively phyllitic. Contains intercalated volcaniclastics - these have limestone fragments - also creamy green-white ~~chert~~ phyllite clasts. Black shale looks like interlayered metasediments & volcanics. Correlates with limy phyllite across valley to west.

S_1 fltn 120/75N

Cut line goes across at this point
Orientation 138°

As go N along ridge.

① Minor massive to foliated chlorite-mottled phyllite

② Interbanded

① pale green calcareous siltstone
② limestone
③ grey phyllite
④ volcaniclastic material.
⑤ Rabbitkettle lithologies

S1 fltn 110/80N
So bedding 100/70S
S2 fltn 135/35NE crenulation

S2 fltn causes open folds - horizontal axial planes - roughly horizontal fold axes
Open warps - but not tight folds here

See only a few S1 minor folds - isoclinal

1124 Massive Askin limestone.
Came through brief interval of
black calcareous phyllite/shale float.
Lying in LS (S_1?/S_0?) 55/90

1125 S_1 flow 120/50S
S_0 bedding 130/30S
S_1 and S_0 125/90

As go down ridge to N - dark green volcanics & metavolcaniclastics until come to black phyllite.

Black noncalcareous phyllite with interbanded siltstones - dark grey but weather to orange color. Can see cross-bedding features in siltstone. Siltstone noncalcareous to slightly calcareous. Looks very similar to UOM on drill core at EROS.

1126 Pale tan weathering dolomitic qtzite. Have come up mainly through talus Thick to thin-bedded.

So bedding 90/455

Occasionally see evidence of poorly preserved fossils

1127 So bedding 105/355

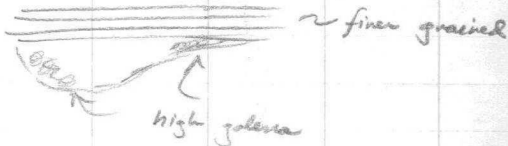
Pale tan ASKIN sandstone. Dolomitic Contains irregular to subrounded splotches of galena These are up to 1cm in size

Also present in non-carbonate othoqtzite

Galena occurs preferentially in diffuse zones parallel to bedding Some zones are very rich ~ 50-60% galena. Galena-rich zones 1-3 inches thick.

Not laterally extensive in any given layer.

In one instances see what appears to be a scour feature in rocks with galeras much more extensive in coarse scour.



Photos

Some clots have concentric structure. Cored by calcite (fizzes in 10%)

August 13, 80 LCP

ANISE GRID

1128 155 ft N of L48

Pale green musc-chlorite phyllite with elongate brown weathering spots — presumably pyrite. Former tuff. Further along 250 ft massive greenschist. Unfoliated.

HI as subcrop

1129 50 ft N of L40

Subcrop to roadcut outcrop

Noncalcareous dark grey phyllite with thin light grey siltstone to quartzite bands. Minor massive totally altered either dyke or flow. Granular texture. Now green & white spotted.

S1 flat 160/90

S2 crenulation 005/10E

Last outcrop to N is coarse volcaniclastic. Carbonaceous lapilli tuff + coarse fragments include black shale.

MT MISERY

1130. So bedding 005/35W

All Askin Fm To east ~~west~~ have dolomitic qtzite to sandy dolomite with boudinaged interbands of grey orthoqtzite. To west have thick to thin bedded grey to black Askin orthoqtzite.

Saddle consists of sideritic or ferroan carbonate with galena Vein? Old workings are here.

Dolomitic qtzite is buff to tan weathering Fossiliferous with abundant crinoids

1131. Buff weathering dolomitic qtzite. with thin interbands of grey orthoqtzite. Locally fossiliferous — including mainly crinoids with some 2-hole crinoids.

So lyring 005/30W

1132 Contact between overlying dark grey to blackish ASKIN schaghtite and underlying black phyllite (Road River)

Phyllite contains abundant carbonate in foliation (S1 and S2

S1 fltn (general) 135/75 NE
S2 fltn (general) 160/60 E

Abundant white qtz veining in phyllite
Phyllite is non calcareous
Phyllite to siltstone.

Strong crenulation elvage 0/80 E
Contains thin black bands which are slightly calcareous.

Also have a thin band of light maroon to off-white material (tuff?) This material contains rusty-weathering pyritic zone.

1133 S1 fltn 90/25 S
110/25 S

Dark brown non calcareous laminated siltstone Weathers to a very very dark

rusty brown. Seems to contain oolitic texture with coarser mineral grains.

Contains ~ 5-10 ft thick fine-grained felsic sill or dyke. Massive - ~~appears~~ cuts across S1 fltn. Contains minor banding. Also contains pale green mineral which forms textures similar to those in the surrounding rock.

looking at total section — lower part is thin laminated siltstone which weathers to a deep hematitic red-brown - maroon color. This part contains the felsic igneous unit which may be a sill or a volcanic.

Upper part consists of black phyllite with thin calcareous bands. Also a wee bit of felsic igneous material.

Large S2 fold in Kechika — limy phyllite in N side of outcrop. Fold has Z vergence looking south.

limy phyllite is thin platy variety with fissile weathering

Lower contact with Kechika appears to be conformable. No major problems with tracing it and no major looking breaks.

By Anvise Claims

1134. Small subcrop trenching on N side of road.

Dark grey to black, noncalcareous phyllite F1tn surface S1 weathers to a light silvery sheen. Looks like reasonable UDM Phyllite contains minor thin pyritic siltstone bands

1135 Continuous subcrop along side of road in UDM noncalcareous dark grey to black phyllite Contains thin pyritic siltstone bands. Only rarely see any light green metavolcanics

S1 F1tn 105/30S

S2 cren. cluge 83/70S

lin F.A. on S2 crinkle 268/15

1134. Roadside debris & possible subcrop now consists of ASKIN Buff weathering dolomitic sandstone

1137. Small slope subcrop in stream gut. Silvery weathering MDM black phyllite.

August 16, 1980

Anise Channs – walk stream

1138 Small stream outcrop. located at
B/L 30 21 5

S1 flat 165/35W

S2 crenulation 105/50S, 90/60N*

Lin L2 – F.A. on micro folds 270/30

Medium grey-green schist Minor qtz eyes & qtz veining Weathers to a light silvery green sheen. Muscovite-chlorite. Contains qtz-brown weathering ferroan calcite veins and stringers.

Contains large coarse-grained pyritic nodules – up to 8 inches long.

Metavolcanic of UDM. Looks volcaniclastic in appearance but cannot see individual clasts or fragments. Very schistose for massive volcanic. Grey color may indicate some carbon input (i.e. detrital).

Pyritic nodules roughly elongate subparallel S1

Strong S2 crenulations present

1139 N of L24 by 100 feet - outcrop extends to 150 N of L24. Located between 32W and 33W Small knob in stream valley. All same rock type - May be very large boulder?

Fine-grained, massive, sandy dolomite. Dark to medium grey when fresh and weathers to a light tan. Abundant qtz veins - milky white quartz. Also have veins with galena + minor pyrite Galena both on margins of qtz veins & extending into (& through ?) quartz veins Galena veins are thin - often subparallel - appear to be structurally controlled In one spot vein goes laterally from qtz to galena

Galena veins crosscut earlier qtz veins

1140. S_1 fltn ≈ S_0 125/50S

S_2 crenulation 140/30NE

S_3 crenulation 40/70SE

Dark grey, noncalcareous phyllite with thin bands of very pyritic, slightly muscovitic qtzite. Qtzite weathers to a pale silvery-green-white sheen.

Looks to be UOM phyllite with thin metavolcanic bands within it.

S_0 ≈ S_1 Strong crenulations associated with later folding of S_1

Phyllite also contains thin bands of pyritic siltstone which weathers to limonite brown

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1141. Massive, foliated & sheared syenite intrusive. Probable dyke. At this location also get float of large boulder of pyrite-marcasite (?) No fltn measurement taken

1142. Several small outcrops in sides of hills & by stream. Essentially - to me - all look like intensely weathered & sheared intrusives.

Massive weathering. Light-colored - whit to pale cream. Variably foliated with foliation tending to be along zones. See more micaceous appearance & less massive appearance in these zones.

Variably pyritic. In places appears to have very large pyrite nodules. (up to 6" long)

Filn is only poorly developed. In all cases it appears to be very steep.

filn 140/65S, 139/73SW

One thin band does seem to be dominantly gtz, well developed slickensides 242/72

1142A

Southern half of last (southern) outcrop becomes very muscovite-rich & foliated. Forms a muscovite phyllite/schist. Contains cross/cutting fine-grn calcite veins

sl Filn 95/75S

Intrusive? or flow?

1143. Medium to dark grey phyllite. Weathers to a light silvery sheen. Does not look like # 1142 material. Would call this metavolcanic. Contains cross-cutting brown weathering calcite veins.

1144. Dark grey fine-grained equigranular mafic diabase. Plag + mafics. Massive — no readily visible fabric. Contains disseminated pyrite.

located 545 feet N of LINE 56
West of Line 23W

Aug 17, '80 LCP

Anise Claims

1145 Massive medium- to coarse-grained, equigranular syenite intrusive. Not excessively sheared or mangled like other outcrops further north.

1146, Subcrop on hillslope at stream level. Massive, unfoliated intrusive. Mainly grey feldspar with evenly disseminated limonite-coloured blotches — these were either pyrite or heavily weathered mafics. Shearing not noted. Same as the last few stations (lithology)

1147 Hillslope outcrop 50 ft west of baseline between L 54 and L 55 — closer to L 54.

Similar to previous stops. Massive, poorly foliated to unfoliated intrusive. Noncalcareous except along weathered fractures. Medium-grained. Mafics totally weathered. Gray to pinkish feldspars

1148. 200 feet West of B/L - L 51.
Outcrop on both sides of stream
Same intrusive syenite rock type
Massive to only poorly foliated. Minor muscovite present. Consists dominantly of light grey to white feldspar (??). Minor mafics which weather to limonite brown.
Dominant joint surface 135/80S

1149. 250 feet south of L 56 on 32 W.
Series of ridge outcrops in west side of stream valley.
Same intrusive syenite. Med to med-fine grained. Much more rusty-weathering on exposed surfaces - almost universally covered by brownish limonite patina. Contains coarse grained Pyritic nodules. Strong jointing 125/65S
Outcrop 75 feet long toward S

1150. Same intrusive syenite type. Coarse-grained. Dominantly leucocratic minerals.

1151. Poorly exposed subcrop of same intrusive syenite. Coarse-grained

1152. Small hillside subcrop of intrusive syenite. Medium grained. Grey matrix with limonite weathered spots.

1153. Medium grey strongly foliated intrusive? looks similar to previous stops only much less weathered. Contains minor qtz — some has rutile blue tint. Dark minerals elongate along lineations.
Appears to have 2 foliation directions
fdtn 45/70 S
125/60 S * S1
Miarolitic cavities are filled with qtz
Medium grained equigranular

1153 cont.

After seeing some float in stream, I consider this a clastic rock. Contains black chert granules - streaked out in a light grey matrix. Minor amts of blue gtz also included.

S1 is orientation of plane in which black chert grains are flattened.

1154. Banded phyllite. Color banded in shades of medium & dark grey. Individual bands are ½" to 2" thick. All noncalcareous. No siltstones noted.

So lying 5/35W

S1 fltn 115/30S 130/30S

Lin So on S1 230/35

1155. Small hillside step. Dark grey to black carbonaceous siltstone. Slightly calcareous. Pyritic - weathered surface has overall limonite brown color.

S1 fltn 80/10S

1155 cont.

Galena - carbonate fills fractures in siltstone. Coarse-grained galena. Some large fractures contain randomly oriented foliated phyllite angular fragments.

1156. Massive to thick bedded, dark grey, fine-grained dolomite. Abundant qtz and carbonate veining

ASKIN ?!

Not extremely rusty-weathering so the fractures are not mineralized.

Fracture — possible So 90/305

1157. Sills/flr 70/30N

Non-calcareous grey phyllite to siltstone. Color banded. Rock very similar to # 1154 Interbanded with another lithology which is either

① lapilli tuff
② sheared syenite

Minerals or clasts are extremely elongate in Si Dominantly light grey to pink with minor dark grey. Also contains many blue subhc. bearing qtz grains. On walking around o/c – parts look intrusive and parts look extrusive. Dark grey reminds me of clasts at #1153

Medium-grained

Abundant milky white qtz veining –

1158 Large fine-grained greenschist – appears to be boulder/float. Dominantly chlorite with some amphibole (?) Color is bright pale green

1159. Si flstn 10/30W

Pale silvery green, non calcareous siltstone Contains minor dark grey carbonaceous partings Presumed metavolcanic.? Fine-grained. Weathered surfaces (fractures?) are limonite orange-brown colored.

1159 S_1 145/45NE

Pale silvery green musc > chlorite phyllite. Noncalcareous.

Just below this have massive pyrite-magnetite.

Aug 18, 1980 LCP

Traverse down N slopes of Mt Misery

1160. ASKIN GROUP

lower contact on ridge to NE at ~ 6700'

As go up section - grey to dark grey orthoquartzite overlain by buff weathering grey sandy dolomite to dolomitic sandstone - medium grey when fresh.

So bedding 005/40W

Abundant crinoid fossils - some minor canals

1161. ASKIN buff-weathering dolomitic sandstone

Have encountered a few beds of grey orthoquartzite on traverse over ridge top from last point.

So bedding 40/30NW

Noted some dolomitic sandstone - rounded gravel in a matrix of grey orthoquartzite. Not extensive laterally or vertically. May be related to small fault zones in the ASKIN

Thick to thin-bedded

last Askin outcrop down-ridge at 6600' First black phyllite chips poking through Askin talus at 6580'

Jet black, calcareous slate to phyllite Minor calcite veining

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116 z. On hillslope at 6450'

First outcrop of purplish/green material at top of wavy banded limy phyllites. Above is Askin talus + black soil. Not in place — slightly slumped

Deep maroon to maroon-grey schist — recrystallized metamorphic texture. Contains boudins & thin layers of noncalcareous brownish to tan siltstone. All noncalcareous.

Suggest that this is distal clastic facies of the u€O Menzie Creek sequence. Colors are right for it being very rich in Fe.

Coarse milky white qtz veins.

So lyring - banding on a scale of less than 1 inch

1163. Downslope at 6320' First good outcrop of limy phyllite Get some limy phyllite type float above this location

S_1 flttn $\approx S_0$ 95/25S

S_2 cren cleav 120/60NE

Lin S_2 on S_1 115/15

S_2 minor fold AP 85/35S

FA 105/15

Northern vergence open fold

Causes boudinage in So bedding

Thinly interbanded grey phyllite and brown-tan weathering sandy limestone layering generally on a scale of $\frac{1}{2}$ inch. looks like good Vanguarda

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1164. Contact between

Maroon siltstones (SW) and

limy phyllite (NE)

siltstones do not outcrop - form rubble pile

limy phyllite carbonate with thin phyllite partings Brown tan weathering - Forms very fissile plates

$S_2 \approx S_0$ 100/40S

late fracture cleav 105/60N

1165. Approx contact between purple (above) & regular limy phyllite (lighter colored)
Very windy in this spot
Transitional contact
S1 ∧ S0 10/35 E

1166. All limy phyllite chips on ridge top to this location from ~ 1165. Here start to see maroon chips on ridge top

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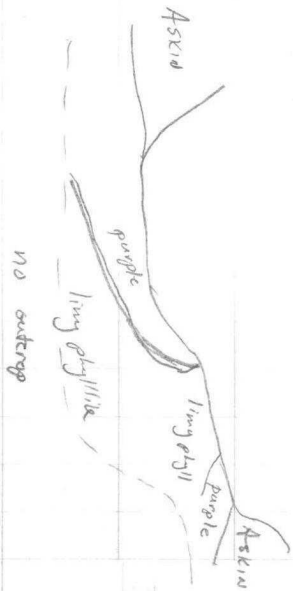
1167. Dominantly massive, thick-bedded grey ASKIN orthogneiss. Essentially no real outcrop between last spot & here. All black to maroon phyllite & siltstone chips. Encountered again dyke of pale green chloritic phyllite. In places slightly coarser grained.
Based on change in color of chips (deep maroon to black) south end of ASKIN outcrop here can have ~ 75' horizontal extent of Road River (black)
S0 155/25 S

Just beyond (W) of contact lies phyllite contain dyke of fine-grained, massive, pale green phyllite. Contains minor disseminated pyrite - sometimes as fairly large cubes. Noncalcareous. Contains S1 f/b. Contact difficult to tell but generally conformable with $S_0 - S_1$.

Picture of ridge just to West



1168 cont. Down ridge at 5900'
Lowermost ASKIN outcrop
So 175/40W
Dolomitic qtzite

Appears to be a fault trending along ridge which drops East side down. ASKIN on right juxtaposed against the purplish limy phyllite on west. That would also account for fact that ASKIN dips into the purplish unit. Probably not a major offset. One of a series of faults which form a wider fault zone. Starting at ~6000' got little ridge of ASKIN on crest surrounded by black phyllite — See skin of ASKIN with Road River below it.

1168. First outcrop as proceed down the ridge slope. Slope entirely black soil with chips of limy phyllite & black phyllite
S, flth 140/25S

Pale green, noncalcareous massive phyllite. Weathers to a sandy brown. Sill/dyke or else a volcanic.

Surrounded by dark grey thin to thick banded phyllite. Noncalcareous. Contains thin pyritic silty bands. Looks very much like WOM to me.

1169. Vangorda limy phyllite.
Interbanded sandy carbonate & grey phyllite
Uppermost outcrops in this cliff slope
All black & dark grey soil & phyllite chips down to here. Locally some maroon coloring
S, flth 160/20W
* 135/25S *

1170. Flaggy, thinly banded medium to dark grey dolomitic siltstone. Weathers to shades of brown & reddish brown. Pin-stripe type lyring.

Contains massive green dykes/sills. Show pale green chloritic phyllite – fine-grained. In one case dyke/sill appears to have been porphyritic with white feldspar phenocrysts – there are now gully formed by S1.

So at high angle to S1

So lyring 90/70N

S1 foln 80/25S

1171. Black, noncalcareous phyllite in outcrop in gully. Black soil down to normal lying phyllite Vangorda at 6400' elevation. Forms subcrop chips in stream gully

1172. Going down ridge to east (along it) 5840' above this have grass with abundant ASKIN strike boulders. Here get brownish & reddish weathering calcareous phyllite to siltstone. Has prototype lyring pattern. Distinctly brown tone. Could be either a dark phyllite or Vangorda siltstone. Small outcrop is medium dark grey dolomitic siltstone - looks more like Vangorda of stop # 1170.

S_1 flat 15/20 W

5780' - black phyllite soil like # 1171

5720' - thin ridge of brown ASKIN strike. Extensively brecciated & broken.

5600' - right at bottom of draw-ridge-gap. Change to black phyllite with bright orange weathering pale green massive metavolcanics. Black phyllite tends to weather to a steely grey color.

Transition to UOM!

1173. Dark grey noncalcareous phyllite
Contains color banding in a scale of 2-3 inches.
Also thin silty bands which weather to a
slightly lighter color.

Contains medium grained equigranular to
porphyritic pale green dykes. Phenocrysts now
as calcite. Also some large pyrite cubes - these
units weather orangeish - look very similar to
dyke/sill unit mapped to the east.

Rocks strongly affected by late - near vertical
crenulation cleavage.

S crenulation cleavage 120/80S

Fx for cleavage 135/10

S_0 at a moderate to high angle to S_1

S_1 135/20 E

S_0 115/35 N

1174. Fine-grained, massive, grey dyke within
UOM grit granule sandstone. UOM contains
disseminated pyrite which weathers to limonite
brown.

S_1 foln 40/25S

1175 S_1 flt 170/30E

Mvt

Have come up hill through coarse lapilli tuffs + massive vesicular metavolcanics. Small intervals of brownish-green poorly laminated siltstones — these may well be cherts with some detrital material. Both flows & tuffs have large pyrite nodules. Generally rocks weather brown to yellow brown. Lapilli tuffs weather to a distinctive light orange-yellow & brown.

Top of ridge is capped by dk grey to black to dk brown metachert. No readily visible lyring. Cannot readily see any ribbon banding.

Contains minor black to dk grey coarsely recrystallized limestone. Is fossiliferous discontinuous step. Contains nodules of black chert. Weathers with nodular pattern.

1176. S, flt 175/30E

Mvt

Interlayered lapilli tuff + massive metavolcanics. Metavolcanics are calcareous Came down off ridge of chert Slope was chert & black phyllite chips Thin marks uppermost good volcanics & volcaniclastics as go uphill - Supposed metavolcanics have large rounded purple clasts which are porphyritic + vesicular

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1177 So 155/70E

Dark grey ribbon banded chert. Each layer - 1 inch thick

Rocks just to NE look to be gently dipping - possible fold

Aug 19, '80 LCP

McConnell River Chopper Hopping

1178 Medium dark grey ribbon-banded limestone. Weathers to a light grey color. Each layer ~ 1-2 inches thick. Layers separated by thin more pelitic bands - also dark colored. + 155/65W +

So lying ≈ S1/1m 160/80W

Not like Vangorda - looks more like Road River from Quartz Lake area. Abundant carbonate veins - white

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1179. So bedding 50/255

Thinly banded platy gtzite to ribbon-banded gtzite. Light grey to dark grey black. Interlayered with dolomitic sandstone layers up to 1ft thick. Also some very thin flaggy material

1180 S_1 flm 135/40S

Noncalcareous very thinly banded light grey-green schist looks to be slightly higher grade than previously encountered Locally very pyritic

locally can see a few very stretched, elongate fragments Would say MVT volcaniclastic

S2 crenulation cluge 110/55N

Also massive, fine-grained pink metavolcanic Has thin elongate chlorite +white qtz ?-feldspar? amygdules or phenocrysts

1181 Deep maroon, fine-grained, equigranular metavolcanic Massive - no readily apparent flm Pyrite with disseminated splotches of limonite Abundant qtz veining

1182 Mvt

Pale green to brown phyllite. Pyritic with abundant limonite spots. All rubble/subcrop - no outcrop noted. looks like coarse tuffs Dark colored fragments present in phyllite. Flattened in S1

1183. So bedding 105/15S

Thick bedded to flaggy dolomitic sandstone Contains horn coral fossils Minor disseminated pyrite

Flaggy material is medium dark gray limestone with abundant siliceous pantonjo It weathers to a very dark brown

1184. UOM black phyllite with thin rusty-weathering siltstone lyers

S1 /tw 65/30S

S2 crenulation cleavage 95/45W

Numerous siltstones - about 1-2 inch spacing

Ph 2 fold has N vegence.
Graded bedding & flame structure in siltstone indicates TOPS DOWN

1185. Massive dark green equigranular ~~meta~~ volcanic Feldspr + mafics
Feldspar forms coarse, randomly oriented microlites. Not a diabasic texture.
Minor disseminated pyrite

Ridge where dropped off consists of pale green massive metavolcanic Mvt
No internal structure noted
= fuel break

1186 Ferro-crete limonite cemented clasts of different rock types. Deep orange-brown color. Occurs just above gossan. No outcrop

1187 Rubble – no o/c

Noncalcareous dark gray siltstone. Contains thin, rusty-weathering pyritic bands. Weathers to a light gray color. Just a little too coarse grained to be a phyllite.

Looks like feasible UOM

Platy weathering

No

1188 S1 ftbr 140/05 S

Black, noncalcareous phyllite. Minor disseminated pyrite. Thin rusty siltstone bands in float

UOM phyllite

1189 S1 ftbr 90/40S

Pale silvery gray-green phyllite. Muse > chlorite. Thin grey bands mark S0 bedding. S0 dips south at a ~~more~~ steeper angle than S1

Lunch break

Aug 20 KCP

Traverse just South of McConnell River — east of Seagull Lake

1190. S_1 flat } forgot my
S_2 even clage } compass !!
Boo Hiss !!

MVT

Rusty orange-brown weathering lapilli tuff interlayered with massive pale green chloritic phyllite. Tuff consists of flattened white fragments in a pyritic fine-grained matrix.

Strong crenulation clage runs ~E-W and is near vertical. Tuffs dip gently ~20° to the N say about 120/20 NE

Massive pale green is dull green. Equigranular S_1 present but not a schistose rock. Contains large pyritic nodules. Weathers to smooth massive 'cliffs' looks more like a possible dike. Contacts are not visible. Have lapilli tuff below it on ridge to NE

1191 Came down ridge through section of lapilli tuff + grey phyllite + massive fine-grained dull green phyllit (dike material). Again looks like equigranular pyritic altered dyke. Green phyllite forms most of outcrop on ridge as came down.

Minor chlorite mottling with green phyllite. Minor dark grey interbanded chert

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1192 Equigranular medium-grained mafic-plagioclase dyke.

Early part of walk from last spot dominantly black chert locally brecciated. Minor grey chert, massive flow, lapilli tuff. All brown-weathering. Last half of walk consists of black phyllite chips interbayered with brown-weathering metavolcanics.

No good outcrop - all rubble.

1193. Black phyllite chips in float up to this point. Small outcrops of black phyllite here. Phyllite locally pyritic. Noncalcareous. Thin siltstone bands present.

UDMs

S_1 dips gently toward the South about 20°

$S_1 \approx 60/205$

S_2 crenulation cleavage trends ≈ 80° and dips steeply N ~ 65°

Encountered 2 thin intervals of massive pale green mud-type sometimes porphyritic

1194. Silvery-weathering light grey phyllite. Color banded with light and dark grey – light grey predominates. Contains thin bands of pale brown weathering siltstone.

All of these lithologies are noncalcareous. Looks similar to Vangorda but –

① very phyllite rich

② noncalcareous

Pale green tint to the light grey phyllite

Strong S2 crenulation cleavage

$S_1 \approx S_0$ approx horizontal here.

S2 dips steeply to N.

S_1 may have very gentle dip to S

$S_2 \approx 90/55$ N

Aug 21, '80 KCP

1195 Banding - comp. f/tn 160/75 E
in dark green differentiated feldspar / chlorite layers. Former igneous diabasic texture.

S, f/tn variable - black phyllite
con. clvge 65/60 NW

Lowermost step/roadcrop dark green chloritic phyllite. Abundant brown weathering calcite veins. Occasionally contains clastic or sheared igneous texture. Interbanded with fine grained light green chloritic phyllite — probably mafic meta tuffs.

As go uphill up road — get more igneous textures.

Then into interval of Mvt light silvery felsic tuff interbanded with dark green — and then into black phyllite.

Dark green a slightly coarser grained than Mvt. Obviously more basic composition

than usually encountered in UOM - MST

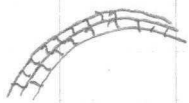
1196. S_1 foln 120/7 S
Black to dark grey phyllite UOM$_5$
Small roadcrop

1197 S_1 foln 145/30 NE
UOM$_5$ black (dk grey) phyllite

Aug 22, '80 LCP

Traverse on mtn tops around east side of ANISE CLAIMS Scattered low clague with high level clouds

1198 S_3 Minor fold — Can see a cremulations clage wrap around thin fold looking NW



FA 318/20
AP 105/65N

S_1 foln 75/22N

ASKIN GROUP —

fissile, platy weathering ~~dolo~~ slightly dolomitic sandstone with thin dark grey phyllite partings. Partings about 2-3 mm spacing. As go higher in section get thicker, more massive dolomitic sandstone

Dike of pale green, equigranular Mut type with scattered large pyrite cubes.

Lying generally dips up to the ~~to~~ E

S vergence to S3

1199. Same fissile dolomitic sandstone as at last station. Dark grey phyllitic partings. Abundant S3 folding noted on way to this location.

S2 cren cleage 75/20N

More massive ASKIN occurs higher up the cliff

S1 foln 70/30N

S3 cren. cleage 130/40NE
85/65N

1200 S0 lyring 118/30N
S1 foln 103/20N

Massive, thick bedded dolomitic grits with thin phyllitic interbands.

Underlain by the platy fissile ASKIN like at the last 2 stops.

Contact between these 2 rock types occurs at 5000'

Minor amts of crinoids in upper unit

Down gully at 4900'.
Contact between platy ASKIN (above) and Black phyllite (UDM_3).
Platy ASKIN at this location is on hinge zone of S1 fold. Lying at a very high angle to S_1 fltn

S_0 lying 178/86W
S_1 fltn 20/20W
Eastern vergence to S1 fold
F.A. orientation 0/13.

S_1 bl. phyllite 175/25E

Outcrop continues down gully to 4720'
4800' → 4900' / Noncalcareous
Black phyllite with minor thin MVT bands.
MVT not well foliated - more massive in aspect.
Lower part of interval includes dark grey to black ribbon-banded tuffaceous cherts.
4800' → 4720'
Massive dark brown weathering syenite. Blocky outcrop without a well developed foliation.
Contains large pyritic nodules which weather orange.
Upper part of the interval may well be regular MVT.

Presently I'm being snowed on!

1201 Massive blocky to smoothly rounded large outcrop

Dark green equigranular intrusive. Has a poorly developed fltn. Extremely chloritic. Contains disseminated pyrite – cubes & some streaky aggregates.

Chloritic mafic-poor intrusive — hence a syenite.

Note – Bedding on ASKIN at top of hill to North dips moderately to the East — ~30-40°

1202 Coarse-grained sheared & poorly foliated intrusive. Dominantly pale feldspar with minor chlorite blotches. Just to east across small gully rocks consist of MVT. Very pyritic metavolcanics interbanded with light colored cherts.

S/ fltn 133/52 NE

1203. Mvt.

① Pink chert with thin dark grey bands.

② Coarse to fine volcaniclastic tuffs — this outcrop has fragments up to 3-4 cm in diameter.

③ Very pyritic volcanics or volcaniclastics — weathers to strong orange brown - difficult to tell original rock type.

④ Massive pink volcanics with the pale green phenocryst aggregates — like the material noted on Mt Misery.

S1 ftn ≈ So/cyring 30/25 SE

1204. S1 ftn 95/30N

Mvt.

Rusty weathering fine-grained metavolcanics interbanded with minor black phyllite.

Abundant evidence of late phase folding — axial plane crenulage 105/70N

F.A 100/07

Rock types includes pale pink, micaceous metachert (?) Pyritic spots abundant on weathered surface. Looks very similar to the smashed syenites located on ANISE claims

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1205. $S_1 \wedge S_0$ 60/405

S_3? cren clvge 85/655

MVV.

Dominantly pale to dark grey siliceous to tuffaceous chert. Minor brown weathering metavolcanics. Chert thinly banded. Can see isolated S_1 folds – no sense of vergence. Some bands are slightly ~~calcareous~~ more pyritic.

Chert forms unit that caps this ridge.

1206. S_3 cren. clvge 105/80N

S_1 foln 70/355

Syenite

Outer part dominant feldspar – coarse grained equigranular texture. Overall

color is dull pink.

Inner part (i.e. #1206) consists of dark green hbl-plag. interlayered with brownish weathering layers. All units show S1 & S3 flt.

Brownish weathering looks like very flattened lagilli tuff — may be extremely sheared syenite. Contacts between 2 types are not totally sharp. Also see pale green to pink chert & tuffaceous chert.

Could interpret as syenite with screens of chert & metavolcanics at margins.

1207 Fault zone right through this location. Dark green hbl(?) - plag syenite to the west. Contact to east with greatly broken & brecciated pale brown to brown rock. Either a feldspar-rich syenite or a coarse grained volcaniclastic of Mvt. Does contain minor amounts of massive fine-grained pale green Mvt volcanics.

Brown rock contains qtz grains — indicating probable sedimentary detrital origin

The dark green phyl-mafic syenite also involved in the fault zone.

1208. $S_0 \approx S_1$ 70/155

S_3? Crenulage 135/5N S_2 ?

Black phyllite + massive Mvt + foliated pale silvery green Mvt. Massive Mvt has pyrite cubes up to 1 inch across. So contacts for these units are parallel S_1 ftn.

These Mvt units are overlain by a massive fine-grained dark green chloritic phyllite. Unit is very well foliated. Can trace this continuously back to Unit at Station # 1206. Suggest that highly foliated green phyllite is border phase of a very unhappy & deformed syenite.

#1209 Same contact as with previous station: light green Mvt lying underneath fine-grained, very dark green massive, metavolcanic. Generally metavolcanic shows no internal structure locally have a bit of chlorite mottling. One sample as magnetite octahedra within it.

This contact continues as outcrop on down the ridge toward the South.

S1 ftn 90/405 ≈ S0

1210. Mvt unit.

Interlayered pale green metavolcanic tuffs and light to dark grey phyllites. Presently on a phyllite section which is color-banded in greys and browns. More dark grey phyllite as go lower in elevation.

S1 ≈ S0 85/245

Good part of section consists of light & dark cherts. Can see isolated F1 fold hinges

Open warp circulation cleavage S_3

100/78N

Has south vergence

Crenulation cleavage 135/42NE possible S_2?

West vergence to minor folds - open warping

1211 S, ftw 25/45E

Northern margin of massive weathering large block outcrop

Overall appears to be a felsic, coarse-grained feldspar >> mafics sheared intrusive. Also have some small screens of metasediments. Mafics → chlorite Weathered surface is white to pale pink

Note - this unit differs from the one higher up on the hill (# 1206)

Unit here weathers with a very knobbly, rough, holey appearance. Get layers which are mainly feldspar separated by thin chlorite bands

1212 Syenite?

Massive knobby weathering, fine-grained - dominantly chloritic schist. locally contains abundant feldspar. Flt~ present but not readily visible.

To me it seems like a hard rock to classify as intrusive.

See screens of metasediments. - dominantly metachert although locally phyllitic as well.

1213. Good syenite at 5300' on way down.

Now have Mvt. Dominantly thinly banded cherts. Colors are greys & pinks & pale greens

S_1 flt ~ S_0 120/25 NE

Minor softer brown weathering volcanics

Just downslope at 5140' — back into crumbly ugly feldspar-rich syenite.

Massive weathering - overall pink color

1214 S, f/tn 120/605

Strongly foliated feldspar-mafics syenite. Mafics all altered to chlorite. Contains nodules & veins of calcite - these weather out leaving a swiss cheese appearance.

Came down through fine grained green to grey massive rock. Could be altered & messed up syenite. In places I could convince myself of an equigranular texture - in other places it looked more like a fine grained metachert

August 24, 1980

Chopper hop W side of Seagull Valley

UOM

1215 Medium to light grey banded non-calcareous grit. Graded bedding based on grain size. Also non-dolomitic.

Also have abundant grey phyllitic chips in soil.

All is rubble outcrop on road. No measurements

ASKIN

1216 Si flat 55/10NW

Thinly banded, platy siltstone to fine sandstone. Abundant grey phyllitic partings. General weathering is to rough platy surface which is orange-brown (pyrite)

Non calcareous even when powdered

1217 S_1 ftn 002/15W

hiney phyllite — very finely interbanded brown weathering carbonate & grey phyllite. Also has bands of green dolomitic phyllite

Calcareous

Cren. cleav 120/80N

Dyke of dark green to brown equigranular syenite? mafics + hbl.

1218 Askin dolomite — light tan weathering Abundant fractures filled with qtz. Massive — no readily visible S_0 bedding

Sand content ranges — varies to dolomitic sandstone

1219. Rubble subcrop at top of hill. Dark grey to black, noncalcareous phyllite looks like good UDM

Possible S_1 ftn 110/30S

Thin rusty siltstone bands present

1220 Pale tan weathering, thin bedded to skin dolomitic qtzite.

So bedding 160/45E

Also some very thick bedded to skin — therefore both fissile & more massive variants

1221. Dominant Sz fltn 150/10S

Limy phyllite with green chloritic phyllite. Strong Sz fltn.

1222. Si fltn 10/25E

Limy phyllite. Silvery grey weathering phyllite with thin carbonate bands. Phyllite locally noncalcareous.

Contains massive, fine-grained dark brown dykes. Not the usual metabasite types. Could well be later UOM type dykes

1223. Thick bedded massive ASKIW Qtzite. Grey when fresh - weathers to brown tan. Non calcareous even when powdered.

So bedding 160/20W

Continue with ground traverse on East side of ANISE — in syenite valley.

1224. Coarse-grained plag-mafic syenite. Equigranular. Uphill at 5800 feet elevation first encounter fine-grained, medium grey, slightly calcareous metavolcanic. It is massive & breaks with conchoidal fracture — possible dyke. Syenite has small screens of MVV.

As go downhill in syenite mafics start to gradually disappear. Left with fine-grained white-weathering rock. Broken & brecciated. Mafics possibly altered to chlorite. Flttn much stronger at bottom of valley

Si? flttn 55/50S

1225 Massive fine-grained, brown weathering syenite (?) No readily visible mineralogy. Has sharp angular corners when broken. Fresh surface is greenish grey. Brown color results from weathering pyrite.

1226. Silvery brown weathering noncalcareous metasediment, fine-grained. In places looks like I can see fragments. Interbanded with darker "gneiss" — chlorite with K-feldspar lyses & augen. May be a coarse tuff or a porphyritic intrusive, or metavolcanic with large phenocrysts — augen are oval.

S, flt 78/505

1227 Mvt thinly banded silvery phyllite & brown lyses - banded on a scale of 1-4 mm. Strongly foliated

S, flt 83/505

1228 Possible subcrop Massive, aphanitic, brown-weathering Scratches with hammer Either fine grained intrusive or massive Mvt

1229 Medium to medium-fine grained equigranular intrusive Plag + mafics Looks brecciated & broken Color is dark brown Locally looks similar to syenite at station # 1224 — generally looks like a darker intrusive

1230 Mvt on east end of outcrop Syenite only at far W end where stream takes a jog Mvt is coarse lapilli tuffs — silvery weathering with large clasts

Syenite is dark equigranular plag-mafics More foliated towards margins.

S_1 = 100/30S

1231 At 5300' on hillside
Dark green to brown plag + mafics
equigranular syenite No readily
visible S, fltn hike last stop

August 25th, 80 ICP

Ground traverse on East side of ANISE
Snow in high country

1232 Medium-fine grained syenite
Pyritic with brown-weathering spots. Dominantly feldspar (K-feldspar?) with minor interstitial mafics — now chlorite.
Can see a poor foln. $S_1 \approx 85/57N$
Looks very similar to syenite in ANISE valley

1233 Medium-grained intrusive. More mafics than last stop — overall rock has a green cast.
Equigranular Feldspar + mafics with minor pyrite. Smooth, massive weathering
Mafics interstitial to feldspar
Irregular calcite veins & stringers
Minor screens of MVF
Looks ~~for~~ similar to intrusive at #1224

1234 Altimeter says 4900'

Contact between syenite (east) and MVT (west)

Syenite more uniformly green — strongly sheared-foliated. Can see relict feldspar in matrix of chloritic laminae. In places becomes difficult to recognize. Not pavant wood equigranular intrusive rock.

S1? flttn 58/305

S? (3) crenulage 86/80 N

Have aagen rock in chloride matrix. Looks in this case like matrix has a relict equigranular intrusive texture. It does have large pyrite cubes

MVT shows extremely strong — widely spaced crenulations cleavage.

orient 75/25 N

Between cleavage planes is 2-4 inches. Also more closely spaced crenulations within that

Lowermost outcrop at 4850' (altimeter)

Qtz-brown carbonate veins in MVT

1235 Cren. cluge 90/63 N

S. fltn 92/325

MVt ??

Difficult outcrop. Crudely layered between silvery green & brownish weathering phyllit. Green forms discontinuous lyers. Brown color results from weathering pyrite.

On east end looks like fairly well layered MVt. On west end can see more of a granular texture so that it looks more like a sheared pyrite feldspar intrusive. Greenish bands cover larger surface area on west side.

Slightly further downstream. Looks like MVt clastic fluff to lapilli tuff. Contains apple to dark green, fine-grained tuff (chloritic phyllite) bands.

Downstream at 4700'. Large boulders (?) of massive, medium green volcanic. Look very similar to material on hill at Stop # 1209 Occurs with MVt

1236. 4700'

Mvt outcrop

S_1 flat 90/30 S

Silvery interbanded with brown phyllite. Contains minor amts of medium green volcanic or volcaniclastic. Texturally almost identical to green at ≈1206. Only minor amt exposed. Does not appear to be massive like further up the hill.

Strong crenulation cluge present in this area.

1237 Mvt. Silvery green & brown interculated phyllite - Metavolcanics

S_1 flat 145/15 SW

S_3 cren. cluge 100/50 N

S vergence to crenulation cluge

Minor bright green chloride (?) spots in the Mvt phyllite

Can see flattened fragments

1238 Si flm 120/35S

Mut phyllite (west) contact syenite intrusive (east)

Syenite med. to fine grained, massive weathering. Composed largely of feldspar — chlorite content varies which causes rock to have different shades of grey to green. Chlorite forms wispy lamellae around feldspar grains — defines the Si flm.

The feldspar augens in feldspar + chlorite matrix occurs at the contact between the two rock types.

Just uphill at 5100' Syenite is in contact with coarse grained ultramafic — looks like a harzburgite. Dull green - knobbly weathering. See small stringers of the finer grained syenite in the ultramafic Outcrop not extensive enough to take it anywhere.

1239. MVT? Phyllite – silvery green matrix with elongate pink augen. Augen are reasonably small – up to 1/4" or so. Phyllite shows excellent S_1 fabric

S_1 fabric 60/255

Augen weather pink-brown with numerous small holes (weathered out pyr. ?) Size & number makes it look like volcaniclastic in this case

Scattered black phyllite float as continue down ridge

4400' abundant syenite intrusive float

Continuing on West side of ANISE CLAIMS Road geology

1240 UDM grey to dark grey lithic wacke Medium to coarse grained. Includes abundant light off-white felsic, fine-grained clasts. Some gets coarse enough to be almost a conglomerate

S_0 fabric bedding 65/505

Also some dark grey phyllite

1241 Series of roadcuts of UDM
Black shales & lithic wackes intermixed with the lithic & chert pebble conglomerate. Rounded grey & black chert pebbles. Also abundant light felsic lithic fragments And shale rip-up clasts within dark grey phyllite and within the lithic wackes.
Some lithic clasts look angular rather than rounded. Rare pyritic nodules weather with brown spot

1242 Roadcrop. UDM dark grey phyllite with rusty weathering siltstone lyers. Also some coarser lithic wackes

S0 bedding 60/90

Graded bedding in siltstones indicates tops to to the East

S1 foln 90/55S

1243 Uphill at 5800'

Living phyllite. Silvery phyllite interbanded on small scale with calcareous siltstone. Reacts well with acid

S_1 fltn 150/14SW

S_3 crenulage 126/80N

lin cluge on S_1 313/00

Small dyke in living phyllite. Aphanitic — sometimes with brownish phenocrysts. Fresh surface is grey with slight green cast. Weathered surface greenish to brown. Is calcareous — fizzes fairly readily with acid. Contains small disseminated pyrite cubes

↓

looks like it could be Mt T type feeder

Contains the S_1 fltn.

1244 Med. green strongly foliated metavolcanic. Contains coarse biotite

S_1 fltn 115/46N

Strongly chloritic Contains rounded amygdules or phenocrysts which are slightly calcareous. Fits for Vangorda

1245. Dark grey phyllite. – UDM
Noncalcareous
S, f ltn 65/10 NW
Contains thin, rusty-weathering silty lens
bands.

Aug 26, '80 LCP

Ridge just S of McConnell River

1246 S, f/ltn 105/25S

Non calcareous, thinly bended medium grey phyllite. thin siltstone bands which weather to a rusty tan because of enclosed pyrite. Compositional banding on the order of 1/4 inch to 1/2 inch.
Non calcareous even when powdered.

Does not look like the Vangorda I know. Looks similar to # 1216 uPMs
So subparallel S,

Just downhill - go into very soft white weathering talcose rock. Large biotite flakes present in white matrix. Contains large pyritic nodules like Mvt.

then into rusty, angular massive meta chert or qtzite. Very dark rusty red-brown weathering then into typical ASKN lithologies

Rusty weathering may be ASKN - or may be uDM metachert.

1247. So bedding 82/35S

ASKIN of different colors from white to cream to rusty brown. Thick & thin bedded. Marble & gtzite. In this location have grey marble with thin micaceous partings. Partings are not common.

1248 ASKIN dolomitic gtzite.

Very rusty orange weathering. Extensively fractured & broken. So bedding not readily visible. Looks extensively recrystallized so can't readily see individual sand grains.

Just above a few hundred feet have outcrop of the grey phyllite

1249. Northern contact of med. grey silvery phyllite of # 1194 Contact is fault - sharp and near vertical looking as it crosses topography to the southwest.

Units as go North

① Coarse to fine-grained dark green (meta) intrusive. Extremely punky — weathers to a very punky orange-brown soil. Originally locally very coarse biotitic. Now chlorite + serpentinite

② White talc-bearing serpentinite. Contains rounded + angular clasts of the green schist. These often appear to have a reaction halo.

③ Thin interval of very fine grained soft, meta tuff. Fresh color is yellow to tan.

④ Blocky-weathering ASKIN Qtzite.

Essentially have serpentinite in fault zone between ASKIN & the grey phyllite. Looks like fault zone may not be so steep. Appears to be almost subparallel So in ASKIN

Fragments of fine-grained greenstone in serpentinite tend to be aligned along So - but also randomly oriented. Coarse grained biotite & Pyrite rims these fragments.

ASKIN S_0 107/55S - right at contact with serpentinite. - looks to be upturned compared to regional strike & dip

Just below here somewhere in cliff have large isoclinal fold visible from chopper - this will greatly thicken this section of ASKIN

Serpentinite contains large pyrite nodules

S_0/S_1 grey phyllite 112/38S

1250. Fine-grained med to dark grey ASKIN limestone.

$S_0 \approx S_1 = 85/55$

1251 ASKIN Fm S_0 100/25S

Strat section as proceeded up hill from last spot to here

rounded pebbles fossil ls - light grey with rip ups clasts worm burrows thin bedded

15' tan dolomitic strike

fossiliferous grey ls crinoids

Just to east. Askin starts to get some very thin black dolomitic/calcareous siltstone/shale partings. Also brown calcareous gtzite. Makes for a darker looking - more ribbon banded rock. Still intermixed with crinoid bearing limestone

bate N verging fold - open
AP 100/50S FA 285/05

1252. So 140/38S

Askin Group

Dominantly pinkish tan weathering grey dolomitic qtzite. Contains 2 sets of dolomite veins. Locally fossiliferous with crinoids and worm burrows.

Lesser units of dark grey to black locally fossiliferous limestone. Has Contains large black phyllite carbonaceous component.

Here have a thin band of very rusty weathering pale grey to dark grey/brown/black noncalcareous siltstone. Only ~ 5' thick. Can trace it along cliff face to west

1253. Descended entirely in ASKIN GP

Dominantly brecciated tan-pink weathering dolomitic sandstone with thin grey limestone beds. Is poorly fissile. Often contains abundant fossils - horn corals, brachiopods, crinoids.

Near this point got a few grey orthoquartzite lyers. Also rusty weathering grey to pale grey phyllite. Phyllite & noncalcareous

This spot marks general transition from grey or lk brown to pale tan as go downslope.

So bedding 155/15 SW

Downslope unit is cream slightly dolomitic sandstone. Massive to thinly bedded

6160' - grey qtzite Thin vertical breccia zones trend 345°

1254. So 10/30 W

Lowermost unit of ASKIN is thinly bedded, brown-weathering sandstone. Fresh surface is grey. Contains very thin laminae which are slightly darker in color.

General color change strat column in ASKIN

up ↓ dark grey
pale tan
grey to dark brown

1255. So 160/35 W

Black shale chips on slope to this point. Varied rock types here

① Pale green foliated metavolcanic
Slightly calcareous. Large to small disseminated pyrite cubes. Equigranular

② Minor dark green metavolcanic
No apparent mineralogy

③ Black phyllite Very siliceous — looks cherty. Slightly calcareous.

④ Slightly calcareous, dark grey, finely laminated siltstone Weathers to a dull gray-tan. Excellent thin laminations. Some primary sedimentary structures. These occur in thicknesses up to 5'

NOTE: NOT LIMY PHYLLITE
Either UOM (Mvt type) or
UOMs with Mvt dykes

or Lowermost ASKIN — at least
those are rock types at this point

1256 $S_1 \hat{a} S_0$ 30/15 NW
Interbanded calcareous phyllite +
brown-weathering carbonate.
Definite limy phyllite — Vanguard

1257. $S_1 \times S_0$ 70/35N

altitude 5560'

First outcrops of limy phyllite. Mainly carbonate with some thin phyllitic basalts. Carbonate both as grey bands & brownish-tan weathering calcareous siltstones / silty limestones

To west – have dark grey phyllite with dark green cgr granular metavolcanics. Metavolcanics have white feldspar phenocrysts.

Volcanic + dark phyllite flt. in hillside above the limy phyllite outcrop

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1258 Typical limy phyllite.

Minor float of med to pale green well foliated metavolcanics. Contains large pyritic nodules

$S_1 \times S_0$ 95/25N

1259. S_1 flt 70/20N

Pale green chloritic phyllite. Abundant brown dolomite crystals — either amygdules or phenocrysts

Possible Vangorda metavolcanic?

1260 Cliff of limy phyllite – Typical calcareous, thinly banded Vangorda. Abundant calcite veins with qtz

Rocks fairly intensely folded by later deformations

Crenulation elage 75/30 N

S_1 is nearly vertical as microlithons

S_2 lineations 320/20

1261 Silvery, calcareous Vangorda type limy phyllite. Interlayered with pale green metavolcanic. Metavolcanic slightly calcareous. Contains large pyrite cubes – very similar to metavolcanics at ± 1255

S_2 crem. elage very strong. 65/35 N

S vergence to S_2 minor folds

F.A. of crenulations 280/20

S_1 just slightly S 175/40 W

1262. Contact of lowermost ASKIN with underlying unit.

Platy ASKIN just above this unit

Thinly interbanded black to dk grey orthoquartzite and grey dolomitic sandstone.

Numerous fractures filled by qtz

Layer thickness from ½" with up to 4 inches

layers are discontinuous with very elongate boudins.

S_0 lying 20/25W

As look W onto cliff Buff-pale ASKIN appears to thin dramatically to the S

1263. Underlying unit is
Dark grey to black phyllite to very finely laminated siltstone. Similar to Station # 1255. All are slightly calcareous. Weathers to a pale tan or grey color

So lying 140/15SW

Minor units of pale green metavolcanic Slightly calcareous Contains elongate white grains. Either fragments or former plag. phenocrysts. Has very large (up to 1 inch) pyrite cubes within it

Lower part has abundant dk grey phyllite chips

T264 S2 elong. clvge
has S vergence
AP N5/10NW FA 300/05
Strong S2 in this region

Typical Vangorda silvery phyllite
Also some dolomitic siltstone — again
thinly laminated.

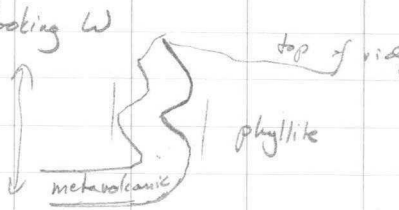
Interlayered with pale green
metavolcanics. Metavolcanics are slightly
calcareous locally. Have granular
phyllite with large disseminated pyrite
cubes, Very phyllite, pale green —
thinly banded chloritic phyllite — probably
meta tuffs. Also some volcaniclastics
with very flattened, elongate fragments.

Volcanics dominantly near upper
contact with the calcareous, finely laminated
siltstones

1265 Vangorda calcareous silvery grey phyllite. Interbedded with pale green chloritic phyllite - metavolcanic. Large pyrite cubes in metavolcanic

Extremely strong S_2 deformational fabric. Forms dominant fabric. Bedding ≈ Vertical at this point.

S_2 FA 280/15 AP 25/200



S_1/S_0 (approx) 130/40S

1266. Limey phyllite unit.

Have come along calcareous silvery phyllite + interbanded metavolcanics. Here have pale brown weathering calcareous light green phyllites. Probably have a tuff component

Abundant S2 deformation. General effect is to raise section to N — S1 gently dipping but overall lithologies dip S at much steeper rate.

S2 is the dominant fabric. S2 is arched over a rough N-S axis. Very gentle, open arching.

S2 AP 55/25 NW FA 270/10

1267. Top of hill UOMs with some green metavolcanic.

Abundant dark grey to black phyllite with thin orange weathering siltstone bands.

Contact with €O marked by zone of abundant breccia and slickensides — no good outcrop — may be a wee piece of ASKIN. Limy phyllite dips to east for a very short interval.

Suggest that this is not a thrust plate — UOM does not really sit below the limy phyllite. Rather it is a steep fault with east side down — juxta posing

liny phyllite to west against UOM to east.

UOM metavolcanic is dull olive green. Abundant white phenocrysts locally — other layers are massive. Contain disseminated pyrite because of rusty-weathering spots. Does not look like good Mvt.

Part of dark phyllite section has Gunsteel type silvery grey weathering.

So lying 100/35S
So ≈ S1 165/30W *
S2 crenulage 60/30NW

1268 UOMs with just very minor unit of Mvt metavolcanic. Gunsteel silvery weathering surfaces.

ASKIN contact is immediately to the North. Beds generally dipping S so contact goes downhill barely to left. Descends fairly rapidly into no outcrop or cirque.

So lying 165/40W ASKIN
S1 (UOM) 70/10S

Uppermost ASKN is tan to brown weathering dolomitic gtzite.

lowermost UDM is dark olive green, very rusty phyllite / siltstone then into Gunsteel dark grey phyllite with minor pale green metavolcanics. Metavolcanics have angular white clasts (or phenocrysts)

S_1 160/40W (UDM)

S_2 crenulage 65/60 NW

L_2 S_2 on S_1 262/35

1269. Thick bedded light tan weathering dolomitic gtzite.

So lyring 155/30 SW

1270. So lyring 165/25W

Dark grey poorly fissile limestone. locally abundant fossils - corals + crinoids. Climbed dominantly through tan-weathering dolomitic sandstones with minor grey limestone.

Have small porphyritic dyke at this location White fldspr phenocrysts in a grey green matrix Foliated, slightly calcareous

AUG 27, '80 KCP

Traverse along ridge – N side of McConnell River

Sunny, bright with no clouds in AM

snow heavy on N slopes

1271 Mvt.

Fine-grained, massive green to dk green metavolcanics. Weathers with chunky looking angularity. Heavily fractured. No readily visible layering or mineralogy. Slightly calcareous – especially along fractures

1272 Mvt.

Dominantly lapilli. tuffs since last stop. Pale pink to tan weathering. light colour matrix. Abundant rounded pyritic fragments – these weather to a distinctive rust orange.

S_1? flts 105/75S

1273. Syenite. Dominantly K-feldspar with minor interstitial pyrite + mafics (chlorite?). Massive rubble + outcrop. Looks unfoliated. Small screens of lapill. tuff present. Trace of blueish qtz in syenite

1274 Syenite.

Possible fault zone. Syenite more extensively fractured. - More massive weathering on both sides of this outcrop. Tends to be slightly finer grained here - possible that may be partly a slightly later dyke. Keep in mind if need a place for a fault to go through.

1275. Dominantly very coarse grained syenite. Interstitial mafics - hbl + pyrik. Feldspars are euhedral to subhedral.

Small units of feldspar porphyry.

Pinkish white K-feldspar in a dark green matrix. Cannot readily tell contact relations - but looks like may have small dyke within syenite.

Slightly further east - good exposure - dark porphyry is dyke in syenite

1276 Massive syenite. Finer grained with fewer mafics than last station. Dark green fine-grained dykes common in traverse from last station

1277. Came through thick interval of dk green, fine-grained dyke Fresh surface grey-green / slightly calcareous
Now into aphanitic white syenite?
Mainly white with scattered, disseminated brown-weathering pyrite No readily visible clastic texture - looks massive
Pyrite distribution uneven
Contains dk green, aphanitic dykes

1278. Mt.
Light grey metachert with thin dark grey bands. Syenite occurs in the draw (contact at 6600' on N side) Not pyritic
Suggest that last step also was in metachert — found float + in place 1ges of darker grey metachert interbanded with the white pyrite-spotted material.
So banding 135/60 NE
Slightly further N 110/45 N

1277 — Similar material occurs as a cross cutting dyke in the metacherts

1279 Metachert of gray & cream & pale green up to this point.

Here get dark grey to black phyllite. Contains thin off-white siltstone (?) bands. Rusty weathering. Interlayered with abundant pyrite-spotted, white syenite sills. In detail these cross cut lyring slightly

S_0 lyring 170/15 E

Syenite contains very large pyritic nodules locally. Extensively fractured by steep fractures

Cren. cluge 130/73 NE

1280 UOM black phyllite with thin siltstone bands last interval all felsenmeer on top of ridge. Skimming along interval of black phyllite + pyrite sills. Consequently rocks show alternating zones of black phyllite and rusty orange weathering sill chips. Because of slope downhill movement these form linear streaks down the slope.

S_1 flthr 110/40 S

S_2 cren. cluge 105/60 N

lin cren on S_1 275/02

1281 S_0 112/10N

S_1 film 80/155

F_1 structure closes to the N

UOMs with minor thin Mvt layers

Dark grey phyllite/siltstone with thin regularly spaced light siltstone layers. About every ½" / Phyllite contains scattered slightly larger grains. Whole rock very siliceous - breaks with sharp angular corners - appears hornfelsed.

Mvt layers are very rusty weathering thin green pyritic volcanics. Can't tell readily if volcaniclastic or not

Just to east phyllite assumes a greenish tint in medium grey

1282 Gray & pale olive green phyllite. All with regular thin bands of light colored siltstone. Can see cross bedding in siltstones. Phyllites have scattered larger grains. Must be a slight volcanic component to make it green — or else it has a much smaller carbon component.

So lyring 20/15 E
S1 fltn 40/25 SE

Blocky Mt – grey – float/scree on slope to east until get to grassy area in pass. No outcrop noted. (Not a thick interval either)

1283. So bedding 145/15 NE
S1 fltn 35/35 E
UOMs Siliceous grey & pale olive green banded phyllites. Contains thin siltstone bands. Pyritic nodules elongate in So weather with distinctive yellow & orange colors

1284. UOMs
Grey & green thinly banded phyllite with siltstone and sandstone lyers
So bedding 150/10 NE
S1 fltn 005/20 E

1285. So lyring 175/15 E UOMs
S1 fltn 85/40S
S2 crenulage 130/60 NE
Dark grey siltstone/phyllite with light sandstone lyers

1286 Equigranular, fine-grained, medium green, noncalcareous dyke. Forms ridge top in this pass area. Otherwise in UDM black phyllites. Just to west - top of ridge going up slope is capped by rusty-orange weathering white syenite dyke

Green looks massive - no fltn taken

1287.

S_0 bedding 15/20E

S_1 fltn 80/155

S_2 crenulation 125/70NE

Dark grey to black phyllite with thin lighter grey siltstone bands Large pyritic nodules weather to rusty orange & yellow

Aug 29, 80 LCP

Traverse on thrust fault ridge — south side of McConnell

1288 last station on ridge to W (#1270) to here dominantly poorly fissile grey to dark grey limestone. Here have interbanded same limestone with massive pale pink-tan weathering dolomite. Limestone fossiliferous with corals and brachiopods. In one outcrop have rounded clasts of dolomitic chert in the grey limestone. Dolomite are thick to thin bedded.

Dyke of pale dull green fine grained volcanic. Large pyrite cubes. Looks very much like volcanic dykes in UOM pit just N of McConnell River

So 140/25 SE

Ls & dolomite contain thin shaly partings which weather black, maroon, grey

Possible fault zone in draw just east of this location

1289. Poorly fissile, grey, fossiliferous marble interlayered with thick to thin bedded brown to tan weathering grey dolomite. Limestone locally becomes very phyllitic.

So lying 100/30S

Ridge top to N is light grey orthogneiss.

1290 Definite fault zone within ASKIN GAP. Came along ridge in interlayered gneiss (grey ortho) and tan weathering dolomite. As came down steep slope was in grey poorly fissile limestone.

Here extensively brecciated & broken dolomitic gneiss. Weathers to a distinctive pyritic orange color.

Extensive well-polished slickensides in dolomite.

Orientation slickensides 170/75E

lineation on slickensides 00 to 10N on the fault/slickenside plane

So south of disturbance 25/10E

1291 Closely spaced fractures 10/85E
So lyring — horizontal
S, fltn — 105/25S

ASKIN (south) contact black phyllite (north)
ASKIN is pale cream white slightly dolomitic sandstone. Not thinly banded. Not typical ASKIN basal unit

Noncalcareous, black phyllite. Poorly fissile. Contains sill of orange-brown weathering metavolcanic. Fine-grained.

Sequence does not look like RR on thru mtn to west. Does not look like UDM here. Looks very similar to RR underlying ASKIN on Mt. Misery. Contains pyritic nodules. S, appears to have a general-boudinage appearance.

Metavolcanic does not continue in hillslope to the south.

Black phyllite contains finely laminated, rusty weathering siltstone. laminations are very regular — no cross bedding. Siltstone noncalcareous

limy phyllite

S, flm 150/40 SE ??

So comp lyring 135/70S

As go W- in 100 ft after ASKIN encounter brown-weathering dark grey carbonate interbanded on small scale with black phyllite

Very fissile

Almost look like a version of Vangorda?

1292 Elevation 5700' Outcrop here definitely lying underneath ASKIN on hill top.

Vangorda limy phyllite with pale green meta volcanics.

Therefore the black phyllite unit must be very thin in this area

Rocks have extremely strong crenulation clvge.

S$_1$/S$_0$ 75/355

Cren. clvge 70/50 N

Lin cren on S$_1$ = 70/000

Meta volcanic either volcaniclastic or has flattened white phenocrysts

Straight uphill at 5800' homeward & ASKIN is dark laminated gteite. Weathers to a dull brown grey. Laminations v. v. extremely well formed. Reminds me of # 1216.

Therefore black phyllite here is slightly less than 100 feet thick (~ 80 feet)

So lying 155/02W

Sandstone is dolomitic

1293. Vangorda limy phyllite (south) contact ASKIN GROUP (North)

ASKIN is medium grey, poorly (but thinly) laminated gteite. (sandstone) It is dolomitic. Contains ~~light~~ dark grey micaceous laminae.

Looks just like ASKIN sandstone above the last stop (# 1292).

So lying 70/20N

limy phyllite to south very carbonate-rich. Also phyllite part very blackish - carbonaceous - don't get silvery colors.

Would suggest that have a small fold here so that basal ASKIN just catches the top of the hill I.E. it looks like a conformable sequence

On ridge top going S— have approx. 125 - 140' of material that could be considered Road River dark phyllite with orange-weathering black and slightly calcareous siltstone.

ASKIN outcrops for 200 feet to N along hill top ridge.

then into tiny phyllite float.

At 360' outcrop of black phyllite with the rusty orange-weathering metavolcanics. Looks like Road River.

Volcanics dominate the outcrop. Very orange-weathering from pyrite. Both disseminated pyrite and large pyrite cubes. Some of pieces porphyritic with euhedral white and pale green phenocrysts. This unit looks very similar to MOT

Volcanics look very similar to dyke rock in ASKIN noted earlier this AM

1294. Approx contact between Road River and Vangorda (Wath) limy phyllite on travel ridge top to N.

All limy phyllite carbonate float to N downslope. Have dug out exposed ~~edge~~ subcrop of black, slightly calcareous phyllite. Road River in this section contains a substantial amount of porphyritic metavolcanics. Weather to bright orange. Both white and green (pale chlorite) euhedral phenocrysts.

1295. 5 cren. cleavage 80/55N

Vangorda limy phyllite.

Extremely intense crenulation cleavage.

Minor pale green ~~rocks~~ metavolcanics interbanded with it

Ridge just E of ANISE

1296. Drill pink syenite. Mainly K-feldspar — almost no mafics, pyritic. Contains pale green, fine-grained, massive, disseminated pyrite dykes. Locally extensive fracturing with carbonate-qtz veining.

320 LX Pacific Rainproof

1297 Would you believe syenite.
This part similar to # 1296. Went through interval with very coarse grain size with more abundant mafics.

Rock locally extensively fractured and chloritic. In places got red-brown weathering with clays on fracture surfaces.

Abundant green-brown weathering, fine-grained dykes.

Very, very tiny unit of Mvt lapilli tuff right at top of mtn. Underlain immediately by syenite.

1298 Elevation 6400'

Contact between syenite (west) and metasediments (east). Metasediments are pale green & pink cherts — except can be readily scratched with hammer. Tuffaceous cherts. Can see a poorly shown color striping. Here they are extensively fractured.

Contact very steep — appears to run straight down the gully.

So dar bonding 145/55 NE

1299 Mvt chloritic phyllites at 6300'
Some look volcaniclastic. Dark green dykes.
Extensive brown-weathering carbonate in fractures.
S, flat 120/80 SW

Aug 26th Cont'd

1300 sl rusty weath non calc carbonaceous phyllites and phyllitic siltstones

S2 well dev cren @ 118/21 Ney
L2 lithon axes ∥ minor Z folds
@ 113/00 ex

UDM

1301 medgrained, dk green, sl chloritized, sl pyritic, sl calcareous locally sl foliated hbl bearing mafic igneous rock. Occurs as float boulders only in talus slope of Askin boulders.
Neither occurring as dykes w/in the Askin or (possibly) as boulders from metabasite slice beneath Askin (unlikely)

1302 med to dk grey banded siliceous phyllites

banding (bedding = S0) @ 042/09 SE ex

second foliation @ 052/32 SE good
(maybe S1 → no cren assoc w/ it)

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1303	Massive buff weath dolomite w/ abundant narrow qtz veins. SDd

Aug 29th

Short traverse on ridge W of 1st Anise DDH — Sunny Broken cloud minor clag

1304 tan weath med grey fine grained dolomite. Massive w/ abundant qtz veining

Note on line 112 S, hit Askin o/c @ 44W

More Askin from line 112S 39w to 41w

1305 st. rotated blocks of massive dolm and dolm sandstone

1306 O/c of med grey brn weath highly deformed pale to dk grey qtzites w/ v. carbonaceous phyllitic partings — similar to that seen @ base of Askin thrust plate NE of Sedgwill LK.

pervasive S_2 (?) @ 065/32NW (poorly dev. cren.) good

Note 1306 is 100' N of L112 37W

dk green
1307 sheared ^ metabasites — dk green, locally w/ dolm or ankerite rhombs present in bands to 0.3 m wide. All in sl. rotated block. Locally sl. pyritic, locally has med grained plag. present

1308 strongly sheared pale grey brn to dk grey siltstone & sl carbonaceous qtzites as in △ 1306
foliation @ 065/17 NW ex
(S?)
- this station underlies △1307

immediately below the qtzites (appear to be in S/C — rotated blocks) is more highly calc., sl. pyritic metabasite

1309 on line 112 S @ 35 W

large O/C of massive to med bedded locally moderately carbonaceous f grained quartzite

Bedding @ 040/27 NW good

Ridge E of Arise
near big magearmrralies

Aug 29th (cont'd)

1310 non calcareous, tan to silvery grey weath, dk grey carbonaceous phyllite and coarse siltstone

Strongly deformed by F_2

S_2 cren cleavage @ 135/31 NE ex
L_2 (lithons and minor flds w/ Z verg) @ 135/00 ex

Overall S_0/S_1 arcental @ 190/10 SW (Far

- interbedded with pale to dk grey qtzites w/ carbonaceous phyllitic partings

1311 pale grey weath f. grained quartzite w/ streaky bands of dk grey qtzite All in sl rotated blocks. This unit is identical to that at the base of the Askm Thrust panel NE of Seagull Lake
Also ass. w/ pale green sl calc. metavolc w/ cs. pyrite cubes.

DUKSBAK WATERPROOF

1312 thinly laminated non-calcareous med grey to rusty brn weath dark grey siltstone

- all in rubble cover

1313 thinly laminated pale to dk grey siltstones as above, w/ various (≤ 2 m) felsic tuff interbands
Pale siltstone bands show X bedding
S_0 @ 166/35 NE ex
S_2 (prob - although no cren^n dev)
@ horizontal (good!)

This sequence is v. similar to parts of the EROS drill core

- silty (pale grey) bands are sl. rusty weath.
- rock also locally contains some limonite "spots" or "knobs" - after small pyrite nodules

1314 dk grey banded siltstones as above in S/C. Also local concentrations of angular cs grained syenite boulders - probably from dykes and/or sills.

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Chopper hopping - headwaters of McConnell

Aug 30th

1315 massive sy. gn. ol. pyroxene syenite - ridge is capped by massive rusty to weath

1316 v rusty weath hornfelsed (probably) black phyllites interlayered w/ v. pyritic felsic tuffs

So @ 039/03 SE

1317 pale to red grey locally rusty weath chert pyritic chert and ferruginous chert. Thinly laminat

So @ 170/23 E ex

locally is v pale bleached grey weath - w/ narrow felsic tuff bands to 5cm

1318 rusty weath pyritic felsic tuff and lapilli tuff

So @ 103/38 S ex

1319 pale grey, silvery to orangy-tan weath limy phyllites and (phyllitic siltstones)

S0 @ 118/38/N
S1 @ 118/28 N ex
L2 (cren wrinkle) @ 097/00 good

1320 pale tan to orange tan weath tan to pale grey ~~chert~~ + grained qtzite (meta tuffaceous chert). Badly broken — approx a shatter Xia - w) carbon... Thinly bedded prior to shattering overall bedding @ 068/035E good

Looks like Mt.

~100 m to E of
- is dk grey limy phyllite

S0//S1 @ 062/13NW

steep fault contact between these two

1321 highly shattered rusty MV tuffs w/ carb phyllite parting

1322 massive trachyte??

steep fault surfaces @ 040/90 w/ horizontal slickensides

1323 (bottom of ok in gut)

sheared pale grey-green qtzite and shattered thinly banded pale to med grey qtz - very f grained probably As Kim

1324 strongly jointed ~~sn~~ non foliated intrusive (check image) w/ narrow screens of cs grained marble and dk grey qtzite or hornfelsed carbonaceous phyllite

1325 pale to lite green siliceous highly ~~pyrit~~ magnetiferous locally highly pyritic metavolcanic - prob related to the UMF suite but not sure

1326 Thinly banded s. calcareous + graphitic gt zone, carb. phyllite and grey weath. med grey marble
– Perb / Road River

So // Ss @ 045/17 SE cx

1327 massive white weath. cream-colored calcareous gt zone

Ashin

gap break

1328 chloritic highly calcareous meta vole / possibly UMF compo in contact to E w/ f.g. tan weath ~~to~~ dyke ~~E~~

1329 pale silvery grey to tan weath. med grey flinty phyllite w/ narrow sl. calc. med grey gt zone inter bands

Ss @ 110/17 N cx
So/Ss highly merged

1330 Massive to thick bedded pale grey to orange to weath dolomitic & gr quartzites and dolomites

(75 km)

Bedding @ 145/64 NE ex

1331 interbedded dk grey to pl calcareous phyllite and highly calcareous pale to med green metasandstone w/ ferroan carb - probably mEOsrv rhombs

well foliated (S_2) @ 116/68 SE

1332 med grey to rusty orange weath limy phyllite & highly calcareous phyllitic siltstone

S_2 cont dip well dev @ 175/22 NE ex

S_2 / S_1 highly wrangled by F_2

1333 interbedded limy phyllite and calcareous pale grey to grey green strata

limy phyllite transition to QSch

No time for structure

1334 v. sheared MVT lapilli tuffs —
sl rusty weath (spotted)

— no time for structures

1335 thinly banded Ashkin qtzite.
Non-to sl calcareous & non-dolomitic
Pale grey weath
Bedding @ 120/85 NE-ex

1336 massive sl. pyritic pale grey to grey-green
weath med-grained syenite. Blocky
weath Some recrystallized muscovite
present along grain boundaries, but
no pervasive foliation

1337 dk greybrown flaggy weath qtzites
w/ ~~mica~~ irregular micaceous partings

Bedding @
155/22 SW good

1338 flaggy med grey qtzites
Non-calcareous

no time for measurements

rusty tan to / thinbanded

1339 ^med grey weath ^ phyllitic marbles and
v. calc. phyllitic siltstones, interbedded
w/ pale green pyritic metavolcanic

no structures – retire ??

1340 non-descript, non calc, non-dolom,
non pyritic non-rusty weath, carbonaceous
dk grey brn phyllite

Bedding @ 075/56 NW ex

uDMs ?? (maybe)

1341 Astin massive dolomitic qtzsstn
overlain by thinly foliated
locally v/ rusty weath black
phyllites → uDMs

phyllites are thinly laminated pale and
dk grey – pale bands rusty weath
S_0/S_1 in phyllites @ 082/17 S ex

1342 phyllitic silvery grey to rusty tan weath
phyllitic thinbanded marbles.

limy phyllite variant

overall S_0/S_1 @ 152/09 NE ex
S_2 @ 096/43 N ex
Z verg on minor F_2 folds L_2 @ 098/10?

1343 dk grey f grained rusty weath thin to med bedded gtzite

Bedding @ 032/30

1344 cs gravel calcareous dk grey green meta-intrusive

check mineralogy

1345 dk grey f rusty weath f grained gtzite, locally w narrow cm to pale grey siltstone interbeds

probably wSM rather than Astin

So @ 013/12 E ex

Clear windy   Aug 31/80

1346 interbedded rusty sheared felsic tuffs and dk grey siltstones

1347 doubly foliated sl rusty weath. slightly calcareous tents pale grey green felsic tuff and lapilli tuff

foliations @ 110/50 S
and 73/31 S

1348 pale green and purplish brown mottled fine grained syenite. Massive and blocky weathering. Sl. epidotized syenite may be either a small plug or a thick flow. Two highly pyritic, felsic, rusty weath zones cross the syenite - approx vertical. These are either mineralized shear zones or highly [illegible]. - not felsic tuffs.

1349 upper contact of syenite. Overlain by brown to rusty tan weath. M-F tuffs and lapilli tuffs

1350 M-F rusty weath calcareous lapilli tuffs as above
(annotation: "to fm")

Bedding (size layering) @ 050/15 SE
516 24

1351 yellow orange weath porphyritic (Kspar phenos to 2 mm) aphanitic felsic volcanic. Ass. w/ medgrained medgrey - brn to rusty red weath syenite. Color on broken surface is pinkish brn to grey brown. Kspar cleavage faces to 5 mm

1352 calcareous m wt tuffs and lapilli tuffs. Sits as a cap on the syenite

Bedding @ 071/35 SE ex

1353 massive fine grained highly altered syenite Rusty weath on fractures Rock is pale green with locally med purplish brown mottles - apparently an alteration texture

- this rock doesn't look like syenite but is continuous in O/C with ↑

1354 fine grained pale green metavolcanic. Massive, blocky weath. Continuous in O/C w/ the syenite @ previous station. Appears to be a chloritized felsic volc.

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1355 pale grey-brn porphyritic f.grained pyritic volcanic. Massive, non foliated Blocky weath
Phenos are sl. elongate of Kspars

1356 rusty orange weath. sl pyritic felsic Kspar porphyry as above locally v. sl. foliated

1357 pyritic felsic porphyry as above - non foliated.

1358 sheared sl rusty weath v. calcareous ~~Ot~~ pale brown lapilli tuff.
So//S1 @ 078/64SE ox

1359 ~~c~~ f.grained epidotized syenite sill or flow Approx 2 m thick parallel to bedding in lapilli tuffs

1360 lapilli tuffs w/ rare black phyllite clasts

1361 coarse lapilli tuffs as above. May in part be ~~tuf~~ mudflow deposits

So//S1 @ 092/29 S ox

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1362 fine grained porphyritic syenite
similar to 1356

Appears to be a large dyke

1363 [illegible] mass brownish weath lapilli
tuff

1364 lapilli tuff as above interbedded
with pale green fine grained tuffs

Sample

DUKSBAK WATERPROOF

Ridge W of Seagull Lake   Sept 1/80

1365 Living phyllite in SE. Rotated blocks
Phyllite is med-dk grey w/
abundant ferroan carbonate lenses

1366 massive Askin dolm qtzite
overlain in O/C by cs grained
black chert pebble cglm w/
pale to dk grey ~~&~~ rounded chert
frags

~~W~~ DM cglm strongly foliated @ 096/36 S

1367 fine to med grained dk grey
chert granule grit
well foliated @ 058/62 SE ex
Bedding not visible

Overcast Sept 2/80

1368 stained fine bcs granodiorite
w/ 2-15% mafics - mod
mafics in bcs grained

foliation @ 018/8E ex (S2)

1369 massive m grained syenite
w/ ~ 2% mafics (chlorite)

1370 massive cs gr ined grey
granite w/ ~ 15% mafics

1371 thinly to bedded rusty
black phyllite & black phyllite
qtz lets
uDM
Sb/c, @ 025/34 NW ex

underlain by massive [gr. pl. rusty
lt grey/qtz rich

→ could be SD con
uDM
probs. D

1372 thinly bedded pl dolomitic
pale tan weath [gr. qtz rich

Foliation @ 142/19 SW ex

1373 mafic dyke (non-foliated) cutting sheared syenite

1374 massive c.g. grained syenite w/ mica-free qtz eyes (?)

- intrudes massive pink weathered [illegible] dk grey weath [illegible] dolomite and [illegible] qtz sstn w/ bedding @ 110/28S ex

1375 red to thick bedded dolomitic sandstone Fine grained pinkish tan weath red to dk grey fresh Abundant qtz - carb veining Bedding @ @ 164/18W ex

1376 thin banded sl rusty tan to pale green weath tuffs and tuff cherts
So/S1 @ 018/18 W ex
fold axes a 288/14 ex
ax Pl. clvg (parallel crenulation) @ 115/56S ex
> Z very minor folds

1377 massive white to pale green sl dolomitic qtz ssh

1378 as above, sl banded

1379 as above

1380 thin fs and bedded creamy to sl rusty fm weath felsic tuffs

Bedding @ 121/36 SW ex

intruded by basaltic pyroxene med grey sill ca 1 m thick

1381 med to dk grey v. siliceous phyllites interbanded w/ felsic tuffs.

1382 creams to pale green punctiform fine to med grained marble massive in b/c

1383 highly calcareous pale green to sl rusty fm weath qtzite ?)

1384 pale to med grey and grey brn thin banded siliceous phyllites

1385 ~~[illegible]~~ dk grey to black siliceous phyllites

overall 50/5, @ 115/56S good

v. strongly dev. zzon clvg
@ 005/10 E good

~~crenulation wrinkle axes @~~
no time !!

1386 thinly striped black and white qtzite

f. grained

1387 v. fine grained siliceous hornfels
Spotted green.

1388 massive . cg grained syenite -

DUKSBAK WATERPROOF

Hlong Hood WJ Sept 3/80
Seagull Lk ()

1389 fine-grained (bmed) sl pyritic volcanic. Mod grey-green fresh w/ orange carbonate(?) grains giving a spotted appearance. Massive, non-foliated, blocky weath. Presumably late stage (post defm) dyke.

1390 Thin to thick bedded tan to pale grey weath sl. dolomitic qtz sstn Fine grained

Bedding @ 010/20W ex

1391 massive to thick bedded cream to pinkish grey fine-grained orthoqtzite

Bedding @ 075/35 NW ex
O/c is sl. jumbled - large boulders to 5 m diameter sl slumped
Appears to be just east of a steep fault (or fold) that drops the qtzite against ... phyllites to west

R. D. PENHALL LTD. MADE IN B.C.
DUKSBAK WATERPROOF

1392 thick to thin bedded massive weath
& dam ofrite tan to pale grey weath
pale to med grey on fresh surfaces
Bedding @ 018/12 W ex

overlies (apparently conformably —
contact is rubble covered) tan to
med grey weath limy phyllite and
v. calcareous phyllitic med grey siltstones
limy phyllite is med grey to rusty orange
weath highly calcareous, thinly
banded
banding (S_0/S_1) @ 075/15 NW ex

well dev minor folds w/ crenulation
clvg locally well dev
@ 131/41 NE ex
Sveg on minor folds

fold axes @ 312/08

1393 limy phyllite on float
must be just below contact w/
overlying Askin

1394 massive O/C of tan to buff weath
Dolom w/ qtz veins
SDp

1355	ol. rusty weath. sl. to mod. calcareous thinly bedded dk grey to black phyllite. Abundant qtz lenses // S0/S1 @ 012/09 W cn			

wDM

1400. Syenite ??

If need a fault - this would be a good location. Massive, fine-grained pyritic syenite. Intensely sheared. Locally developed greenish micas (serpentinite ?)

S1 flow 85/205

Cren. Cleavage 90/vertical.

Have been in syenite since last station (# 1299)

Dark green dyke or wall across gut shows extensive boudinage - general offset to South

1401. Highly sheared, pinkish weathering syenite. Dominantly feldspar (no mafics) with abundant disseminated pyrite. Locally shearing gives S1 flow surface the appearance of volcaniclastics with chlk weathering feldspars flattened in a pyritic brown weathering matrix.

At this location sheared syenite intruded by dark green mafics - feldspar dyke. Medium to coarse-grained. Feldspars pink when fresh. Weathers to very rusty orange

because of disseminated pyrite
Massive — no apparent deformation —
might make a good age dating sample

1402 Just passed over large dk green, coarse-grained intrusive — like at last station.
This unit forms the massive dark grey blocky rocks in the area.
Now in either Mzt or sheared syenite
Right now it looks more like Mzt or Mt —
pale cream tuffaceous chunks.
S1 flat 120/35 SW

1403 Same pale green Mt unit Color-banded with darker grey layers. Soft enough to be scratched with hammer.
So layering 20/20E
S1 flat 85/06S
Contains minor units of the dark green dyke — this time foliated

1404. Color banded grey and greenish grey phyllite Abundant poorly foliated green fine to coarse-grained dykes.

This is UOMs -

Extremely strong crenulation cluge in this area.

S_3 cren. cluge 115/60 N

S_4 cluge 75/35 S

August 31, 1980

North of McConnell River

1405 Dark grey to black hornfelsed UDM phyllite. Contains greens (pale green) slightly calcareous, pyritic layers. Also low very dark grey to black limestone. Weathers overall to a very rusty brownish. (May be RR)

So lyring 30/10E

Just down slope to E at 6060'- have extremely regularly laminated + banded white/green calc-silicate assemblages. Quite calcareous. Green layers weather to brown. Suggest this is a contact metamorphosed lime phyllite - hornfelsed.

So lyring 125/15SW

So ASKIN 145/48 SW

Only very south tip of peak/knob is ASKIN. Separated from underlying material (black phyllite) by orange weathering zone of ultramafic. Coarse biotite, white & green serpentinite.

Askin extremely brecciated & broken. But problematic in that appear to have reversing sequence underlying the Askin

1404 So Askin 160/45 NE, 175/30 E

At 5800' elevation -

basal poorly to well laminated grey Askin gtzite. In places develops a calc-silicate appearance with limy phyllite type groundmass white banding / definitely Askin. Would now suggest that perhaps #1405 really was an Askin with minor interleaving of other rock types

Underlain by ultramafic Both fine-grained greenstones and coarse grained biotitic material. Basal Askin looks disturbed & broken Greenstone forms veins in Askin with large Askin blocks underlain by & surrounded by coarse ultramafic

At 5700' have underlying rocks Very rusty dk brown weathering hornfelsed black phyllite. Unit uncertain Contains what may be tuffaceous chert bands (UOM?)

Therefore ultramafic ~ 100' thick

1407. 5500' directly on line with stream valley. Have come along base of cliff. Homogeneous rock type. Looks to be equigranular, fine-grained, black syenite. Minor amts of large pyrite cubes — this would explain the highly hornfelsed phyllite. Texture & weight are right for ultramafic — check with magnet at camp.

1408 On this level basal contact of ASKIN occurs at approx. 5700'
In coming up through lower unit there was no major change to ultramafic from other units. Leads me to think that entire exposed lower package may be part of the ultramafic package. Only get the coarse ultramafic right near the overlying ASKIN contact. Appears to be a bit of interleaving of the unit types.
So lying 55/105E
(Check — contact may jump up right at this spot) — No False alarm!
Very bottom ASKIN has a pale pale greenish tint

1409 Basal ASKIN Poorly laminated gtsite. Above have rusty weathering gtsite of ASKIN Have ultramafic assemblages off to east at just about this level

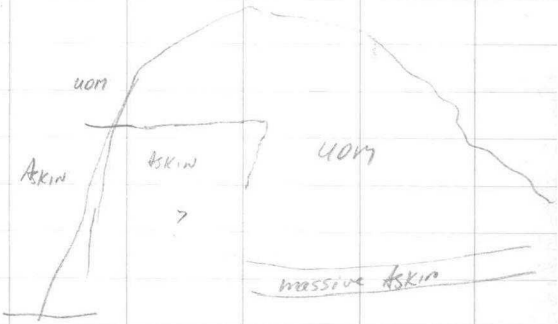
1410. ASKIN contact UOM at ~6100'
End of good white massive ASKIN at 5900'
Proceed upward through brown-weathering calcareous & dolomitic gtsites — thin bedded with black phyllitic layers.
Basal UOM is calcareous dark black gtsite to limestone. Contains thin rusty weathering pyritic bands — large pyrite cubes. Not a sharp break with ASKIN — looks more transitional
ASKIN contained serpentinite about halfway up to massive top.
So lying N70/15S
Go uphill into dark grey & black phyllites

1H11 UOM3 black phyllite with thin siltstone bands

So lying 90/10 N
(may be slumped)

1H12. Looking at NE face of cirque facing N just W of this pass

ASKIN is either faulted out or folded out because it does not continue all the way across



Massive ASKIN below this region does not look faulted out over the entire interval to the west

If it is a fault it looks like in this instance it must be a NE trending one to get massive ASKIN to look continuous across the where the pan/draw is. — that may be the one spot the ASKIN is not continuous.

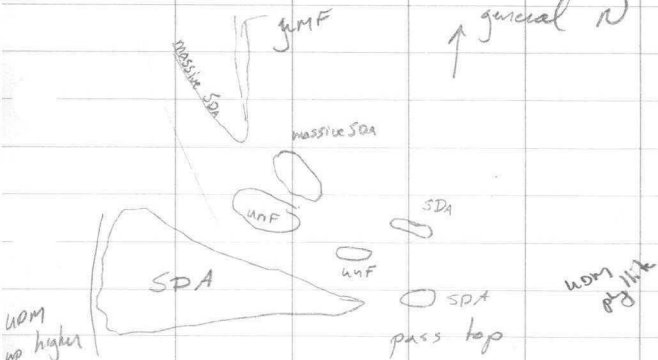
So UDM 125/40NE

S1 f/lm UDM 30/15 E

Also must put step fault through this draw because just expose UDM (E) against ASKIN (W)

ASKIN exposed in center of draw right next to UDM (east) is a dolomitic sandstone breccia. Subangular clasts of different sizes — randomly oriented — so lying goes in different directions

Plan (map) view of outcrop distribution in pass



Looks like have a greenstone section sandwiched between 2 ASKIN sections

Also have greenstone UMF below the lowermost ASKIN

Greenstone thinly banded - shows dips step to E

MH wider indicates 6660' feet elevation for UDM contact on west side

1413. Last high (elevation 6500')
tracing of contact between ASKIN (lower)
& UOM (higher) Just starting
to turn corner on ridge. Next
ASKIN step is much lower.

1414. Abundant subcrop – just slightly
displaced outcrop of UOM grey &
greenish siliceous phyllite.
So lyring almost horizontal
ASKIN does not make it thus far to the
west at this elevation.

UOM grey phyllite step downslope
at 6300'
So lyring 135/20NE
UOM grey phyllite downslope at 6200'

1415. So lyring 140/20SW
thinly bedded slightly calcareous phyllite
. Thin beds are gale grand weather downs (–
not in relief

Contact wraps down the hill from station # 1413

Uppermost Askin outcrop occurs at 6300' right in gully marking change in slope.

Ridge W of Seagull Lake

1416 Brown-weathering grey dolomitic sandstone. Abundantly broken with strong fractures and a lot of white quartz filling fractures.

Strong fractures 165/80E

Massive — no bedding measurements possible

1417 Strong fracture 25/75E

Massive Akiak dolomite at 5100'

Limy phyllite just uphill at 5140'.

S$_1$ (the fgeneral) 55/305

Limy phyllite is strongly crenulated.

105 F/7

Ridge just E of Seagull Creek near MM

1418 Dark green, noncalcareous, massive meta volcanic. Possibly foliated. Patches are coarse grained diabasic ? contains biotite, pyrite, dk green mafics, fldspar. Also pale green lgrned phyllite — possible metatuffs

1419 Pale green metachert & metatuff. Overall cherty appearance. Calcite in fractures.

S_0 lgring 170/80E

Flinty appearance. Can scratch with hammer. Tuffaceous cherts

1420. S_1 f/tn 85/60S

Pale green micaceous phyllites + more massive metavolcanics. Metavolcanics like at stop # 1418. — noncalcareous

Micaceous pale green phyllite look like daffaceous clasts when freshly broken. On weathered surfaces they have a very distinctive, fine Si filtn. Similar to Stops # 1418 & 1419.

Do not remind me of UOM because of pale green color

Contains coarse white calcite veins in more phyllitic material

Also grey calcareous phyllite with thin Is interbeds

1421. Thinly banded marble
bearing 110/65S.
Recrystallized Medium grey.
Thinly yet regularly laminated

1422 Coarse-grained ultramafic
Primary igneous texture.

320 LX Pacific Rainforest

1423 Grey calcareous phyllite. Weathers with a reddish brown color to surface. Strong crenulation cleavage. Looks most like Vanguard of rock types I've seen. ~~Crenulation almost horizontal~~

1424. S_1 film 110/70S
S_2 crenulation 115/25S
Massive green metavolcanic + pale green tuffaceous metachert — similar to Stops 1418 – 1420

1425 Dark pink to maroon, fine-grained volcanic? with splotchy dark green patches & films. Calcite in fractures. No readily visible structure. On scree slope

Sept 7, 1980 LCP

Hop on East side of ANISE VALLEY

1428 S_1 flat 20/15W

Noncalcareous, slightly carbonaceous biotitic phyllite. Qtz-rich interbands.

Not limy phyllite type

Interbanded biotitic phyllite (purplish) and green calc-silicate. Also like a metamorphosed limy phyllite — again it is noncalcareous.

Weathers to rusty orange because of included pyrite

Also coarse-grained gabbro or syenite — pale grey — very orange weathering — probable syenite.

1429 Dark grey, noncalcareous phyllite

Pyritic with brown-weathering spots

40m

S_1 flat 100/05N

Qtz sweats present

1427 ACKIN GP

Major of roadcut consists of noncalcareous sandstone with abundant silvery grey phyllitic partings. Phyllitic partings are anastamosing — minor boudinage of quartz sandy layers. Each band ≈ 1-2 mm thick.

Overall appearance is very much like an outcrop of ten weathering limy phyllite.

Outcrop also contains thin bands of dolomitic sandstone. These contain minor, pepper then grey phyllitic partings.

$S_1 \approx S_0$ 135/15S

Weak crenulation cleavage 160/25E

Lin cleavage on S_1 145/15

Later strong warp which deforms earlier structures

AP 110/45N FA 115/000

South vergence

Ridge W of Seagull Lakes

1426. Straight uphill from # 1391 at 5620' elevation

Foliated dull green to dark green meta volcanic (?) Can see porphyritic phenocrysts of former pyroxene up to 2mm across

S, /th 25/40E

S, surface shows dark chlorite mottling

Fits best with Vangorda metabasites

Slightly calcareous

Contains minor biotite

Contains minor thin discontinuous greenish chert bands. These are up to 1" thick.

Meta basite more finely xtalline around chert bands

1430 ASKIN

Grey thick bedded dolomite
Contains minor disseminated pyrite
So lying (?) 115/10S

1431. S1 fltn 40/15SE

Silvery grey, slightly carbonaceous, noncalcareous phyllite. Not typical UOM, not typical Vangorda
Contain opaque white quartz sweats

1432 S1 fltn 90/20S = So

Creamy limestone/marble with thin micaceous bands. Has phyllitic appearance with skim of silvery micas on surfaces and S1 recrystallized calcite. Disseminated pyrite gives it a yellowish color.

Cut by dark green dyke - light has chilled margins - slightly porphyritic in core with mafic phenocrysts

1433 Si fm 155/15 NE

Interbanded biotitic carbonaceous phyllite and dark green calc-silicate layers. Very similar to Stop # 1428

Slightly carbonaceous phyllite — silvery grey sheen on weathered surfaces.

Contains large disseminated pyrite cubes. Biotitic looks to be more siliceous.

1434. Massive, pale-green fine-grained, noncalcareous quartzite. No readily visible structure of any kind. Contains screens of coarse grained intrusive. May well be part of the intrusive phase.

Looks like coarse-grained intrusive in other spots

1435. So lying 160/70 W

Grey & brown interbanded cale-silicate hooks like Wolverine facies

1436 S_0 20/45 E ≈ S_1
S crenulation 140/45 NE
Dark grey phyllitic laminated quartzite
hooks like basal ASKIN seen on road between Seagull and the ~~Iron~~ Silver Arrow Mine
Locally extremely phyllitic - other places more like a calcareous gritte

1437. S_1 165/55 E
light green chloritic phyllite & dk green serpentinite. All pyritic with brown-weathering pyrite cubes. Dk green when fresh

Overlain by tan-weathering, massive ASKIN dolomite

1438 Massive tan weathering ASKIN dolomite. No readily visible layering. Rock extensively fractured

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1439 Si flt 50/10S

Phyllitic limestone to very calcareous phyllite. Fresh is grey color. Weathered is tan with abundant silvery phyllite partings. Large pyrite cubes.
Flt marked by thin micaceous partings in more calcareous section.

1440 S flt 005/20W

Very similar to last stop. Fissile grey limestone with thin phyllite partings. Grey - weathers grey to grey tan. looks like living phyllite

1441. Grey medium grained limestone with phyllitic partings. Phyllite is silvery grey. Pyrite cubes disseminated. Phyllite component varies from little to up to 30% or so — quite micaceous.

Sept 9, 80 LCP

1442 Small stream outcrop Hornfelsed black noncalcareous phyllite Weathers with angular corners looks like fairly recent UDM

1443 Grey dolomite Weathers to dk grey to brown with reddish tint Abundant worm burrows weather in relief
ASKIN

Drill site 80-A-03

bearing 186° ie N 06 E to
drill site from
L-16 ⇒, 29W picket
|
145 feet on this bearing