006721

Weather: broken ground fog, ceiling @ 5500 - 6500' Light SW drizzle occasional rain July 25/79 NSI

~~Δ301~~ Thinly to finely bedded fine to medium grained lapilli tuff w/ occasional larger fragments. Average grain size 0.2 - 1.0 cm, occasionally to 12 cm diameter. Smaller fragments generally highly flattened, larger

[Bedding @ 157/79 SW exc
S1 @ 123/06 NE exc
no linear elements noted]

frags. only slightly flattened. V Penetrative pervasive planar cleavage, no rock fabric noted. Bedding only locally visible, defined by distinct color and grain size boundaries. Rock color highly variable, generally pale to med grey-green, locally maroon, locally d. rusty weathering. sl. to highly calcareous (CA in matrix) No SUS noted

Fabric || cleavage

Fragments are mainly fine-grained med grey volcanic occasionally w/ Qz and plagioclase grains.

Δ302 Thinly interbedded non-calcareous siltstone and lithic greywacke (flattened frags) siltstone graph. shale, and [illegible]. Beds to 20 cm thick, avg. thickness of 5-10 cm. Locally load structures seen in float (CN-2a)

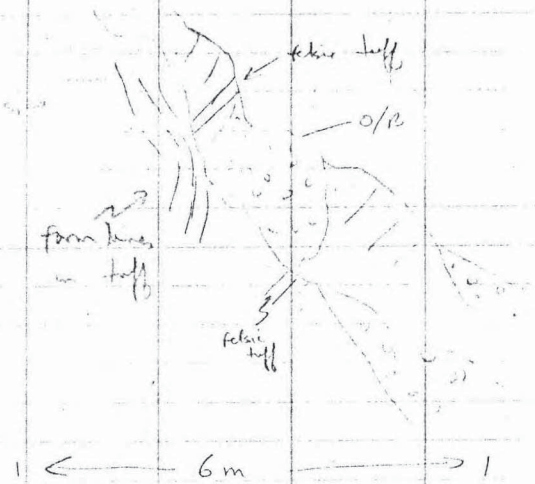
Bedding @ 164/90 exc
Locally penetrative S1 cleavage @ variable ex.

In carbonate content to N w/ purplish brown fine-grained, blocky weath. massive volcanic (CN-2b)

△303 Thin interbed (40 cm thick) of fine grained pyrite, v rusty yellow orange weath felsic tuff interbedded w/ med gray fine grained felsic - intermediate lapilli tuff w/ ash size to 1cm dia fragments.

Bedding @ 145/33 NE (ex)
Penetrative S_1 cleav @ interbed (good)

looking East



△304 highly cleaved gray green, sl calcareous f grained tuff, locally w/ red to dk brown patches
Pervasive S_1 folded and cleaved by locally well dev S_2 in noses of minor folds.
No bedding visible

overall
S_1 @ 163/20 NE good (penetrative cleav)
S_2 @ 119/90 ex (locally penetrative in noses of F_2 folds)
F_2 @ 119/03 ex (λ = 0.8 m, mm Z asym)

△305 medium to coarse grained graywacke w/ sl. to highly calcareous cement. Rock is poorly indurated, ~60% matrix, 40% clasts
Contains frags of med grey, locally sl. rusty weath tuff (avg. gr. size ~0.5 cm) and abundant large (to 30 cm dia, avg. 10 cm dia) clasts of v. rusty weath felsic tuff.
Unit overlies (struct) rusty yellow-orange weath felsic tuff as in the graywacke clasts. Prob. a mudflow w/ locally derived felsic tuff frags.
Dip of contact not meas.
S_1 pervasive @ 157/11 NE (ex)

△306 massive blocky weath fine grained red ~~grey~~ brown to grey brown intermediate vole, locally w/ small rusty spots

prominent jointing @ 125/65 SW ex

△307 thinly bedded red grey brn, v. sl pyritic tuff and lapilli tuff. Fragments in lapilli tuff highly flattened

Bedding @ 065/26 SE (ex)
S1 @ 115/23 SW (ex)

NE area d grad
Weather: cold, overcast, rain & sleet in afternoon

July 20/18

△308 thin interband (continuous) of v. rusty yellow weath pyritic felsic tuff interbanded w/ red grey to grey brown lapilli tuff w/ sl calcareous matrix and frags. from tuff 0.5 to 3 cm dia
Bedding @ 116/11 SW ex
S1 @ 136/06 NE ex cleavage well dev

unit exposed at least 30 m of pyritic rusty felsic tuff

△309 red grey brown well bleached and highly flattened lapilli tuff w/ red. calcareous matrix

S1 well dev. penetrative cleavage @ 109/06 NE ex

Bedding nd meas.

△310 interbanded v. rusty orange weath fragmental felsic tuff & red. grey brown lapilli tuff w/ sl. calcareous matrix

Bedding @ 094/53S (poor)
S1 @ 074/12 SE (fair)

△311 blocky, bright yellow to rusty orange weath. Felsic lapilli tuff w/ frags of fine grained highly pyritic (locally w/ trace GA & SL) felsic volc. to 1.5 cm dia (avg. 1 < 1 mm) set in matrix of v. fine grained highly pyritic QZ (?) Locally grains of QZ and sanidine (?) also visible
Matrix ≅ 80% by vol, frags. ≅ 20%.

△312 red grey brn locally sl. calcareous highly cleaved and flattened lapilli tuff w/ sl calcareous matrix

Bedding not visible
S1 (overall) homog. tol
S2 @ 112/33 NE good - locally dev. crenulation cleav, very not recog.

△313 as above
Bedding not vis.
S1 cleav @ 102/02 SW exc.

Δ311 pale green to grey grey chloritized lapilli tuff
and fine grained tuff

Bedding @ 115/45 SW ex
S1 penetrative cleavage @ 110/36 SW ex

Δ315 thinly interbedded red grey green chert and lt grey
tuffaceous chert. Beds ~ 1 mm thick, discontinuous
& lenticular, sl to highly rusty weath
seen in S/C only

Δ316 sl calcareous, sheared red brn lapilli tuff
locally w/ rubble of Py to 1 mm brn

Bedding not recog
S1 @ 108/82 NE good (partly deformed, cleavage)
F2 axes @ 293/05 fair (2 varieties, kink &
mesoscopic folds, λ = 2 cm → 10 cm)

Δ317 thinly interbedded sl graphitic slate, finely
X bedding of lt grey limestone, and fine grained
red grey brn lapilli tuffs. Indiv beds
from < 1 cm to 6 cm thick

Bedding overall @ 148/22 SW good
S1 @ 176/14 SW ex
X bedding in fine clastics shows top to SE
Foresets beds @ 098/24 S good

Δ318 N. rusty weath felsic tuff, lapillic tuff and
agglomerate (clasts to 8 cm dia)
medium brn red brn lapilli tuff

Bedding @ 116/17 NE fair
S1 not visible
sample from chloritized intermed tuff
(massive flow?) overlying felsic tuff

SE corner of grid July 28/78
Weather :- overcast, occasional sun
- socked in, steady drizzle from 4:00 on

Δ319 S/C non calcareous, sl. chloritized grey-green
lapilli tuff w/ frags of v. fine grained
red grey volcanic w/ small rusty spots.
Occurs as v. large boulders near OK (>8m dia)

Δ320 as above, but w/ clasts of graphitic black slate
- (greywacke). DK rusty brown weath
- sl. calcareous, chestnut greenish matrix

S1 @ 052/13 SE (ex) - penetrative cleav.
Bedding not visible

Δ321 as above, non calcareous, rusty brn weath
two plane elements: Bedding (prob) @ 021/19 SE ex
S1 (prob) @ 061/22 SE ex

S1 / Bedding intersect @ 125/21 ex

Δ322 as above dk brown weath.
Fragments of med gray volc. to 15 cm dia

Bedding @ 054/21 SE ex
Si @ 049/14 SE ex

Note Sample CN-22 is a portion of one of the volcanic fragments

Δ323 Thinly to thickly interbedded slightly to chloritized mod to highly pyritic, v. rusty weath. med gray green lapilli tuff as in Δ22 w/frags of pyritic lt to med gray f-grained volcanic and lt gray, f-grained, v. pyritic v. rusty orange yellow weath, sl. chloritized felsic tuff +6cm

Bedding @ 108/30 SW ex
Si @ 052/11 SE ex
Si/Bedding intersection @ 123/05 fair

Δ324 med gray brn, locally sl. rusty weath, sl chloritized lapilli tuff (frags to 1 cm dia) w/sl. calcareous matrix
Bedding @ 109/28 SW ex
Si @ 073/14 SE ex.

Δ325 as above

Bedding @ 106/23 SW ex
Si @ 089/15 S fair

Δ326 thinly bedded dk rusty brn weath, med gray fine-grained lapilli tuffs
Bedding @ 167/06 E ex
Si dev @ 065/21 ex

Δ327 a&b sl. calcareous, med to dk brn gray weath lapilli tuff and agglomerate — clasts from ash size to > 20 cm dia, avg ~ 1-1.5 cm dia
Bedding & clast. indistinct
Note some of the large fragments are transitional volcaniclastics
Sample 27a is a single fragment w/clasts in it
" 27b is a finer grained lapilli tuff

Δ328 rusty orange weath sl. chloritized, mod to highly pyritic fine grained felsic tuff

Bedding @ 16/16 W good
Si @ 084/16 S good
Si/So @ 068/00 fair

Δ329 fine grained orange brn weath. med gray lapilli tuff
Bedding @ 032/27 (?) ex
no Si or Si/So visible

Δ330 med gray brn weath med. gray lapilli tuff w/ fragments to 30 cm dia
Bedding @ 146/11 NE fair
Si @ 142/14 SW fair
(Picture taken)

△331 thinly interbedded f grained, sl pyritic felsic tuffs and buff to brown weathering siltstone

Bedding @ 095/10S ex
S1 @ 117/10 NE ex

tops indicators not seen

△332 small, lt grey v. fine grained, sl pyritic w/ to rusty yellow/orange weath trachyte intrusive (flow dome or dyke?) w/much QZ stringers

△333 thinly bedded med grey-green lapilli tuffs
Mod to highly calcareous matrix

Bedding @ 096/21 N good (may be S1?)

△334 non calcareous med grey brown, sl rusty weathering tuff w/ sl phyllitic partings

Bedding not visible
S1 @ 080/14 S ex (closure)
S2 @ 111/70 NE (ex welded crenulation, S very ex bottom)
S1/S0 @ 112/23 ex
S1/S2 @ 108/11 ex

△335 locally rusty weath, lt creamy grey felsic tuff w/ minor lapilli tuff
thinly bedded
Bedding @ 085/26 SE ex
S1 @ 016/19 E good

△336 coarse-grained sl pyritic, dk grey, dk grey brn weath diabase dyke.

Trends ~ 165/30

△337 non calcareous lt grey lapilli tuff w/ lt grey locally pyritic fragments to 6 cm dia in a sl banded f grained matrix

Bedding @ 108/25 NE ex
S1 not visible
overlies (abrupt, apparently conf)
v. fine grained, locally mod. pyritic rusty orange yellow weath felsic tuff (QZ flow?, or sill?) prob. extrusive

△338 rusty orng brn weath, felsic tuff (f. grained) w/ occasional narrow (<1 cm) interbeds of f. grained lt grey limestone

Bedding @ 154/23 NE ex
S1 @ 000/27E good

△339 v. thinly bedded lt grey and lt brn siltstone

Bedding @ 190/23 NE ex
lineations on bedding surfaces @ 048/23 ex
S1 @ 042/17SE ex
. graded bedding indicate tops are up

△340 as above
Bedding @ 132/37 NE ex

Δ311 felsic tuffs
Bedding @ 165/26 NE good

E end of Grid July 27/78
Weather:- Sunny, scattered cloud in morning
Thunderstorms, heavy rain, back to camp @ 2:00

Δ312 non-calcareous d. to v. rusty weath., sl to highly pyritic coarse grained greywacke w/ clasts of lt grey f. grained volcanic, and black slate. Py occurs as felsic fragments and as cubes in matrix
No obvious fabric visible

Δ313 as above
S1 disc @ 072/09 NW pen

Δ314 non rusty weath med grey brn lapilli tuff w/ sl calcareous matrix and greywacke
Clasts of lt grey volc, massive qz, f mm graph black slate
Massive, blocky weath, no fabric visible

Locally contains large irregular zones of rusty weath pyritic felsic tuff (slump blocks or large clasts?) to 1 m dia

Δ315 Thinly bedded felsic lapilli tuff. Variably pyritic, rusty yellow orange weath
Contains clasts of coarse grained pyritic dyenite
Bedding @ 089/33 N good
S1 @ 100/23 NE ep

Δ316 med grey brown lapilli tuff (or greywacke) w/ large clasts of pyritic, rusty yellow orange weath, felsic tuff to 30 cm dia
Picture taken

Δ317 as above, w/ felsic clasts to 3m dia
Bedding @ 158/11 SW (good)
S1 @ hangingwall fair)

Δ318 interbedded f grained felsic tuff (orange weath sl pyritic) and massive blocky weath f grained sl pyritic orange weath felsic volc (flow or sill?)
(Sample)

Δ319 thinly bedded med brown greywacke w/ sl calcareous matrix and occasional rusty felsic tuff frags to 40cm dia
Bedding @ 112/54 SW good
S1 @ 154/11 SW good
S1/bedding intersect of 119/00 good

Δ320 medium grained mafic dyke
Trends N 072°/90

Δ321 as in Δ19 w/ occasional bright green spots (pistachite?)
Plane lineament @ 012/11 N (parallels S1)
Occasional QZ veins w/ trace of CPY

Δ322 felsic tuffs
Bedding @ 165/26 NE good

Δ352 felsic lapilli tuff, v. highly pyritic, yellow orange weath, w/ bright green opals
Conformably overlain by red brown, locally mostly weath lapilli tuff as greywacke

traverse below camp July 29/98
intervals 1 chain

Δ353 thinly bedded, locally pl rusty weath. Carb greywackes to graphitic black slates

Bedding ~ // S1 @ 101/06 NE ex
Bedding / S1 intersect @ 111/02 ex

Δ354 (below camp) medium grained granodiorite (monzonite?) (dyke (sill)
Massive, blocky weath, locally rusty weath, minor qtz veining. Overlain by red brown F grained lapilli tuffs
155 as in Δ353

Bedding @ 103/29S ex
S1 @ 122/13 NE ex
Bedding / S1 intersect @ 111/00 ex

Δ355 massive dk grey basalt(?) aphyric MV (may be part of); occurs as massive ~ conformable unit > 75 m thick
Kechika valley?

No evidence of shearing or defm

Δ357 thinly bedded black slates and f grained siltstones

Bedding @ 078/21 SE ex
S1 @ 139/47 NE ex
S1 / bedding intersect @ 115/12 ex

Δ358 as above

Bedding @ 152/34 NE ex
S1 not vis
S2 @ 021/85S good ax pl deg.
F2 axes @ 088/15 ex (λ = 25 m swing)

Δ359 Kachalka Bay phyllites

Comp. bedding @ 135/16 SW ex
Penetrative cleavage @ 110/21 NE ex
F1 lineation @ 108/00 ex

E end of grid July 30/78
Weather: sunny in morning, clouding over @ noon

Δ360 dk calcareous, md brn to rusty brn weath
md grey-green lapilli tuff (ar grey wacke)
w/ large clasts (frags.) of f-grained rusty
wrgy yellow weath md pyritic felsic tuff

Bedding @ 011/32 SE ex
S1 @ 018/13 SE ex

Δ361 as above

S1 @ 112/06 SW ex
Bedding not visible

Δ362 massive blocky weathering buff to md grey
volcanic breccia or lapilli tuff w/ dk calcareous
matrix. Underlies upper part of felsic tuff
unit.

Δ363 as above
S1 @ 096/16 S ex
Bedding not vis.

Δ364 dk green → md grey brown siliceous calcareous
slates and thinly bedded, dk brn weath
Bedding @ 110/13 NE ex
S1 not seen
locally w/ trace amt. of disseminated Py cubes

Δ365 massive coarse grained pyritic quartz
BA in float

Δ366 buff weath coarse grained lapilli
tuff w/ clasts of lt grey f-grained volc to 15 cm dia

S1 @ 073/08 SE ex

Δ367 buff to orange brown weath, buff lapilli
tuff w/ mod. to very calcareous matrix

Bedding @ 121/08 NE good
S1 @ 021/15 SE ex

Δ368 as above, thinly to medium bedded

Bedding @ 155/18 NE ex

Δ369 as above

Bedding @ 138/05 NE ex
S1 @ 915/37 E good.

Δ370 v. f. grained, sl pyrite, rusty orange weath, sl chloritized lt. gray green felsic dyke (intrusive? or ash, crosscutting, may be flow)
Massive, blocky weath.

Δ371 as above lt gray, non chloritized locally w/ much Qz stringers both ∥ & ⊥ to CA strip ass. w/ dk mineral in v. narrow ∥ fractures sample 71 b.

Δ372 thin to med bedded med calcareous, med green brn, dk brn to rusty brn weath lapilli tuff.
Bedding @ 027/39 SE ex
CA @ 170/04 E good

Δ373 sl calcareous med gray brn to med rusty brn weath lapilli tuff or graywacke
Planar fabric @ 051/45 SE ~~Fair~~ good
prob ⊥ sub ∥ bedding

traverse on BUOB KA53 Aug 1/78

△~~BH1~~ S/c of red grey to black carbonaceous
△401 slates and phyllites, abundant Qz veining, locally rusty weath. Much evidence of defm — minor folds, lineations locally well-dev. chev.

△~~402~~ 402 S/c highly sheared pale grey quartz, v. slightly calcareous, sl pyritic, buff to red rusty brn weath f. sericitic layers

Fold (Bedding)
plane fabric 043/34 SE good
lineation (wrinkles on S1 surfaces) @ 062/16 good

△403 black carbonaceous calcareous slates w/ phyllitic partings locally sl rusty weath
Bedding @ @ 120/85 NE good
S1 penetrative chev @ 092/82 S good
S1/Bedding intersect lineation @ 091/
ENE

△404 thinly bedded calcareous, non-calcareous sl rusty weath black slates
Bedding (overall) @ 172/66 W good
S1 (ax pl of min fold) @ 102/17 SW good
F1 (axes of mesoscopic folds, λ = 3m, Z-asym, exc) @ 139/05 (fair)

Δ405 thick bedded transsive, med grey-brown weath, med to dk grey siliceous dolomite, locally w/ abundant Qz veining

Bedding @ 057/15SE ex.

Δ406 massive med brn weath DOLM w/ abundant Qz veining

Δ407 massive sucrosic white fine to med grained BA, locally w/ irregular stringers of CA and lenses of PA. Note SL on CA noted.

Δ408 (just below – Nf – Δ7) thickly interbedded w/h massive sucrosic BA as in Δ7 (ΔBb) and fg grained thinly bedded white to cream limestone (sample Δ8a)

Bedding @ 130/40SW ex

Δ409 (EK) thinly bedded, blocky weath, sl. calcareous med grey brn weath, med-dk grey Qz SSTN, X bedding well dev in float samples.

Note PB7M-24 m @ T/L OS 15W

Note T/L OS m @ 124–125°

Δ410 rusty orange weath, massive, blocky weath, pale grey green to cream, sl to mod pyritic lapilli tuff.
Bedding not recog.

Δ411 Rusty weath pyritic sl. chloritized pale greenish grey lapilli tuff (variably)

Bedding @ 171/55 W poor
Si @ 146/11 SW fair-good.

Δ412 as above, locally v. pyritic
Planar fabric @ 091/46 S (ex)
probably bedding — similar to other beddings nearby

Δ413 as above
Bedding @ 090/70S ex. — defined by pyritic laminae.

Δ414 as above
Bedding not visible
Si (always w/ almost minimal variation) @ 029/25 SE ex

Δ415 as above
Si @ 024/14 SE ex.

Δ416 as above
Si @ 034/36SE ex

Δ417 (2 Aug 78)

O/C mostly weath variably pyritic felsic lapilli tuff (Δ417-a) w/ massive bedded BA (BB-76) in float nearby
Bedding attitudes (as plotted on map) define a large S-fold (facing S) w/ λ ≅ 15m
BA unit is bounded on both sides by the felsic tuff & is ≅ 10m

-note small fold nose defined in BA sample

Note L24 is on a bearing of 125°

L28 marks old geochem picket line (@ 17W)
-old line bears 002½°

Aug 2/78 transition Ridge N & E of BNOB
weather: CAVU -- hazy (smoke)

Δ418 black sil. slates w/ phyllitic partings
Bedding @ 112/32 SW (ex)
S_1 @ 125/59 NE (ex) (well developed, on B also)
F_1 minor folds (λ = 15cm, 2 very) @ 115/00
11 S_1/bedding intersects (good)

Δ419 as above
Bedding @ 063/33 NW (ex)
S_1 @ 091/30 N (good)
S/X bedding (wrinkles in bedding surfaces)
@ 148/35 (ex)

Δ420 thin to med bedded non calcareous dk grey, red/grey/brn blocky weath Qz SSTW, locally w/ dissontant Qz/CA veins, locally w/ narrow interbeds of highly veined punk with DOLM
Bedding @ 111/19 NE (ex)
X-bedding shows tops are up (fair-good)
Pictures taken — ex X bedding dips striking 200°
< of foreset beds @ 053/40 NW good

Δ421 large slumped blocks of interbedded (various textures) black limestone
Unit overlies Qz SSTW, underlies punk brn massive DOLM

△422 thinly bedded sl. rusty weath black slate w/ phyllite partings

Bedding @ 136/42 SW ex
S1 @ 132/44 NE ex
S1 x bedding @ 135/01 ex

△423 fault contact between black siliceous slate w phyllite partings & much Q2 veining (⊥ NE) and massive red brn tuff/ash weath DCM w/ much Q2 CA veining
Fault not exposed (buffered between O/C ~ 10m apart)
" trends ~ 140°
Bedding in black slate @ 012/11 E ex
" " massive DCM @ 079/71 NW ex

△424 thin to med. interbedded fine-grained siliceous DCM w/ much Q2 CA veining (buff weath) and fine crystal tuff, weath rusty-siliceous Q2 SSTN

Bedding @ 072/27 NW ex
Joints Sets @ 170/90 & 158/50 SW ex
(both @
Perennial possibly to well dev. cleavage @ 030/21 NE ex (S1)

△425 black slate, fault bounded against massive DCM to the SW. S1 pyritic, chloritized grey green flow (sill?) along the fault trace (sample)

△426 thin to med. bedded purplish grey weath DCM w/ abund. Q2-CA veining
Bedding @ 124/41 SW ex

△427 thin bedded black slate w/ phyllitic partings

Bedding @ 009/12 E ex
S1 @ 138/44 NE ex
S1 x bedding @ 065/28 ex

Traverse towards Thzerpeough Aug 3/78

△428 black siliceous slate w/ phyllitic partings w/ narrow interbeds of highly siliceous buff (w/ white spots) highly sheared lapilli tuff
Bedding @ 142/55 SW ex
S1 @ 125/85 NE ex
S1 x bedding @ 302/11 ex

△429 as above, no tuffs.
Bedding @ 108/19 NE (ex)
S1 @ 104/37 (?) (good)
S1 x bedding @ 282/05 fair

△430 buff weath. calcareous lamy phyllites (Kachuba)

overall bedding @ 110/52 SW
pervasive schistosity @ 059/27 NE ax
lith ax @ 278/07 ax (4 mm)
small wrinkle lineation @ 251/09 ax

△431 as above locally w/ dk. grey layers

Bedding overall @ 138/27 SW fair-poor
pervasive schistosity (cumulative) @ 087/39 N ax
lith axes @ 286/13 (ax) (λ = 15cm, 5 wvg)

△432 fine grained pow. calcareous, pl. pepite buff to rusty brn weath + pale grey-green tuff

Bedding @ 012/22 E good
Si not visible

△433 buff lamy phyllites w/ much QZ cA veining

overall bedding @ 082/11S ax
pervasive schistosity @ 105/45 NE ax
schistosity x bedding @ 092/00 (very not ax)
vague cleavage @ 103/18 NE ax.

△434 v. siliceous black phyllitic slates, v. rusty weath.

Bedding overall @ 120/34 SW fair
Si @ 097/56 N ax (cumulation very in lithons not very)
F. lithon axes 293/13 good

△435 thinbedded lamy phyllites, buff to brn, locally dk grey to black.

Bedding @ 110/46 NE ax
schistosity @ 087/14 N good
wrinkles in bedding surfaces, 11 min
fold axes (λ = 25cm, 2 wvg) @ 303/06 good

△436 float of massive dk grey-brown to black fine grained mafic flow or intrusive (prob. Kachuba volcs thrust outcrop of Mus volcs)

△437 thick bedded buff to rusty brn weath, pow calcareous lt brn to pale grey fine lapilli tuff.

Bedding @ 058/08 SE

△438 thinly bedded med brn calcareous rusty brn weath) sheared lapilli tuff

Bedding @ 110/27 NE good
Si @ 078/08 NW good

Δ439 <Δ5 — Sl calcareous red brn lapilli tuff overlying sl. to highly pyritic, v. rusty weath felsic lapilli tuff (in S/C only)

Bedding @ 148/49 SW ex.
S. @ 110/07 SW Fair to good

Aug 4

Δ440 — o/c v. siliceous, rusty weath black slates

Bedding @ 080/23N ex
wrinkle or bedding surface @ 095/07 ex
S. not seen

Δ441 — rusty weath sl. pyritic felsic tuffs

Bedding @ 040/84 NW good
S. @ 052/63 NW good

Δ442 — massive Barite, locally pyritic & v rusty weath
Bedding @ 032/65 NW ex
prominent jointing (1/5 cm) @ 008/90 good

Δ443 — massive, med to coarse-grained dk grey Brown intrusive (or flow). Blocky, buff to med grey weath

Δ444 — L725 4W
large sub angular to subrounded boulders (to 3 m diameter) of pyritic w/ abundant MG and rafts of PY. Matrix med green, rusty weath
Boulders distr. from L725 4W to L68 ~11 W

Traverse along top of talus, SE side (cont. July 3 '78

Δ600 massive fine grained Musty veins/veinlets along gtzite (felsic tuff). Pipite cubes and rarer discontinuous bands
Bedding @ 149/65 NE (good)
no minor structures

Δ601 thinly banded (<1 → 2 cm) chlor/tic and quartzitic schist (andesitic tuff) locally w/ recessive volcaneous bands
~~Bed~~ S1 @ 005/45 W (good)
minor fold @ ≈134/10 faint
wavelength not recog.

Δ602 as above
S1 @ 175/58 W good
minor folds λ = 6 cm @ 338/26 good

Δ603 as above
S1 @ 172/83 E (good)

Δ604 as above, → a massive blocky weath (flows w/ int banded tuffs?)
S1 @ 172/82 W fair

Δ605 int banded felsic Qz ms schist w/ (locally) massive vein qtz, occ. traces of dissem. GA w/ Py in the schist, and dark qtzy green - brn of volcaneous Qz-Bt-Ms schist (andesitic tuff) S1 @ 164/39 E good

Δ606 highly pyritic QZIT and QZ-MS schist v. rusty weath, locally w/ interbeds of QZ-CL-MS schist w/ narrow stringers of SL and QA+QZ. Much hydrozincite ass. w/ the QZ CL-MS schist.

S1 @ 167/36 E exc.

Δ607 highly py. rusty yellow weath QZ-MS schist & QZIT, locally sl. mylt.
S1 @ 169/51 E good
F1 @ 149/09 NE good (S verg)
S1 @ 150/33 NE (good)

Δ608 as above. F1 isoclinal? antiformal folds
whis 172/34 SW (fair)
lin. 141/40 NE (good)
axes @ 322/25 (fair-poor)

λ/2 ≅ 5m, ampl. > 4m.

Δ609 v fine grained, lt gray-brown rusty yellow orange weath, rarely massive (bed bedding visible) felsic volcanic? QZIT w/ disseminated & stringer PY
S1 @ 057/32 NW SE exc

Δ610 thinly interbedded rusty orange yellow weath QZIT & QZ-MS schist, and red rusty brown weath QZ-MS-CL schist
compn banding ∥ S1 @ 020/60 SE exc
S2 well dev @ 160/29 NE exc

Δ611 thinly banded mod pyritic QZ >> CL schist dk green fresh, weathers med rusty brown
S1 149/37 NE ∥ compn banding (exc)
(upper part of 4C ≈ 5a?)

Δ612 thinly banded, locally gametiferous (to 2mm dia, v. irregular & shattered) QZ-MS-CL-BI ± GN schist (andesitic tuff?)
Non calcareous
S2 @ 144/40 NE (exc)
well dev. FL lithos 2 vergs (facing N)
axes @ 242/16 fair-poor

Δ613 yellow-rusty weath pale grey pyritic QZIT w/ minor QZ MS schist
S1 @ 115/45 NE? exc
F1 @ 241/25 (good)
F1 mesoscopic folds ∥ S1 & MS
compn banding @ 174/90 fair

Δ619 highly pyritic Qz-CL-MS schist

S_1 @ 154/13 NE (exc)

Δ615 highly pyritic Qz-Cl & Qz-MS schist

S_1 @ 158/51 NE exc

Traverse @ head of cirque July 4/78

Δ616 thickly interbanded ^ carbonaceous to graphitic Qz-MS schist ~~and~~ (locally sl. rusty weath) and fine grained, rusty orange-brn weath Qz-MS ± minor CL + BI + PY schist

S_1 (compn banding) @ 113/52 SW (fair)

S_2 @ 098/19 N (exc)

1 → 10 m thick

Δ617 F_2 minor fold in fine grained sl. gr. carbonaceous dk grey layered tuff(?) w/ clasts of f. gr. volc(?) to 2 mm dia

F_2 axes @ 304/04 (exc) 2 varg

λ = 1m

Δ618 thickly interbanded carb to graphitic Qz-MS schist and rusty weath Qz > MS ± CL ± py schist

Bands to 10 m thick, avg ~2 m

S_1 overall compn banding @ 174/79 NE good

F_2 minor folds (λ = 10 → 40 cm) @ 357/04 exc (2 varg)

S_2 @ 094/07 N (fair)

Δ619 ~~#~~ as above

S_1 overall 170/28 E exc

F_2 minor folds (2 varg) @ 004/00 exc

Δ620 as above

S_2 @ 101/16 NE exc good

F_2 minor folds (3 varg, λ ~ 6 cm) @ 354/14 (exc)

Δ621 dk grey brn Qz-BI-MS ± CL schist, locally rusty weath, locally w/ carb schist partings (andesitic tuff?)

S_1 (compn banding) approx 132/78 NE poor-fair

Δ622 carbonaceous Qz-MS schist

S_2 @ 142/18 NE exc

F_2 minor fold (2 varg, λ ~ 1 m) @ 311/00 good

△623 carb. Qz-Ms schist

S_1(?) compn banding @ 116/17 SW good

△624 as above

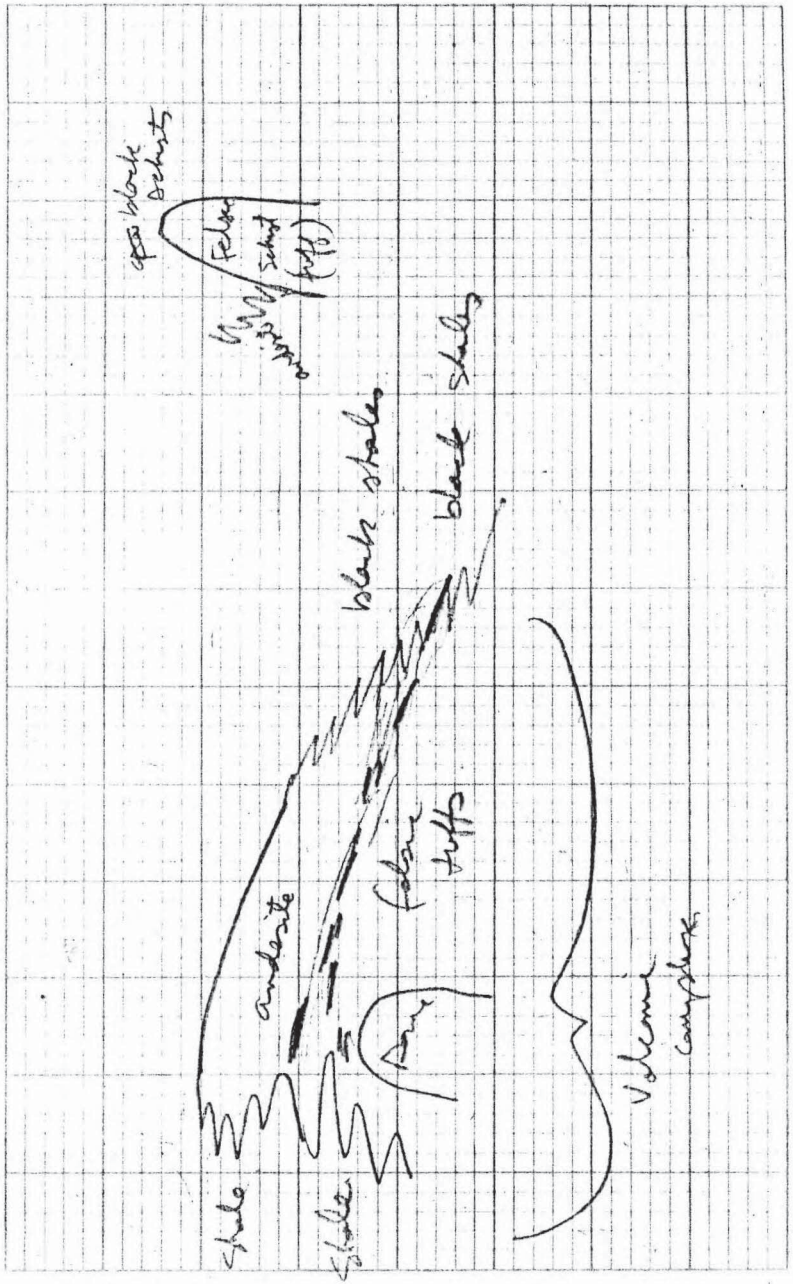
S_1 @ 111/27 NE ok
S_2 @ 162/09 NE good
F_2 folds (2 orig, 1 ~ 15-25 cm) @ 122/00 good.

△625 backward anticline w/ felsic schist in core overlain by carb to graph schist
compn banding
S_1 on W limb 145/37 SW good
S_1 on E limb 161/77 NE fair Overall

hinge of anticlinal nose @ 326/10 (fair)
not pipelike

△626 massive to vaguely banded andesite to Qz > Bi + Ms schist

compn banding @ 121/48 SW fair



Δ627 carb. schist, locally sl rusty weath

S_1 @ (overall) 190/54 SW good
F_2 lithons @ 309/17 good.
S_2 @ 106/06 NE fair

Δ628 felsic QZ MS schist, sl. Py, rusty, orange weath
overlain to east by carb to sl. graph QZ-MS schist
Compn banding @ 176/38E good.

Δ629 carb. QZ-MS schist

S_1 overall (compn banding) @ 192/57 NE exc
F_2 minor folds (@ (5 avg, 1-20 cm)) 131/09 good

Δ630 graph, locally rusty weath QZ MS schist

S_1 compn banding @ 149/77 NE good
S_2 @ 012/12W good
F_2 lithons; minor folds (? avg, λ = 1-30 cm)
@ 309/08 exc

Δ631 sl rusty weath graph. QZ-musc. schist

S_2 @ horizontal (good)
F_2 lithons @ 170/00 good

Δ632(a) graph QZ-MS schist

overall S_1 (compn banding) @ 131/50NE poor
F_2 lithons & minor folds (2) 344/03 exc
S_2 well dev @ 164/09 NE good

Δ632(b) schists as above w/ narrow interbands <1cm to 1m wide of felsic schist (QZ-MS). Felsic schist is med pyritic, contains narrow bands < 0.5 cm thick w/ chosen SL, much hydrozincite ass.

F_2 minor folds (3 avg, λ = 1-3 m)
@ 326/06 exc

Δ633 as above. graph schists ~~Stats~~ are v. highly graph.
Compn banding @ 133/28 NE good

Δ634 felsic QZ MS schists w/ ~~non~~ variable amts of BI. Contains one narrow conformable band (~ 0.3 m thick) of massive py and a narrow massive SL band ~ 3 cm thick (sample)
Much rust, much hydrozincite
Compn banding @ 157/48 SW exc

Δ635 sl Py rusty weath QZ? MS schist
compn banding @ 179/46 SW exc
F_2? minor fold (S avg, λ = 25cm) @
354/00 good

△636 sl. rusty weath black carb schist w/ abundant conformable QZ sweats

S_1 well dev. horizontal
F_2 folds & lithons ($\lambda = 2 \rightarrow 20$ m, Sverg) @ 338/00
overall S_1 not measurable

△637 highly sheared serpentinite and minor TA-AC-CL schist. Locally highly magnetiferous (to 30% MG by vol). Locally mod pyritic

No structures measurable.

△638 highly calcareous med grey, lt grey weath ± QZ VT. F.
Compn banding @ 000/65W exc
S_2 @ @ 020/15 NW poor
F_2 lithons (Sverg) @ 342/19 good

△639 as above.
Macroscopic ~~Z fold~~ (F_1); $\lambda = 5$m
fold axis @ 318/15 good
axial pl @ 132/52 NE poor.

△640 thinly interbanded pale green TA-CL-AC schist and magnetiferous serpentinite
compn banding @ 039/60 NW exc
locally lots of pyrite and carb

△641 as above, locally interbanded w/ thinly banded pale grey brn. dists
compn banding @ 031/21 NW ex

△642 thinly banded black carb QZ-MS schist
compn banding 11 S. @ 032/04 NW ex

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traverse to head of cirque July 5

△643 thinly banded QZ VT and QZ MS schist (pyritic, rusty weath)
compn banding @ 029/49 NW exc
interbanded w/ graph, sl. rust. weath QZ-MS schist

△644 graph schist as above
compn banding @ 000/24E fair

△645 graph schist as above, locally mod. rusty weath
S_2 @ 142/14 NE fair
F_2 @ 000/11 exc (Sverg, λ ~ 2m)
overall S_1 @ 159/24 SW (fair)
sl. pyritic

△646 rusty weath QZ-MS schist locally w/ narrow interbeds of graph to carb. QZ-MS schist
compn banding @ 063/17 SE exc

Δ647 Massive to vaguely banded, mod pyritic, rel coarsly med brn weath andesite (volcaniclastic?) Blocky weath.
Compn banding @ 133/30 SW ex

Δ648 rusty weath, pyritic QZ II, QZ-MS schist, and minor interbands of QZ-MS-CL schist

S_1 @ 176/28 E poor.
Small minor fold (phase not ident., λ = ~ 5cm)
@ 232/14 (poor)
ax pl not measurable.

Δ649 graph focarb, rusty weath QZ MS schist

S_2 @ horizontal (fair)
F_2 Mthrs (very not recog.) @ 173/00 fair

Δ650 graph QZ MS schist w/ v. minor ramanas rusty QZ MS schist bands

S_2 @ 109/13 NE ex.
F_2 Mthrs & Mhrm folds (λ = 1cm to 20cm, ? very) @ 309/04 good.

Δ651 mod pyritic, rusty weath QZ >> MS schist

Compn banding @ 138/71 SW ex.

Δ652 interbanded & carbonaceous QZ MS schist and highly pyritic, v. rusty weath QZ IT & QZ-MS schist

overall compn banding @ 034/45 NW poor
S_2 @ 133/08 NE ex
F_2 mesoscopic fold, (5 vars, λ = 2m)
@ 353/06 ex

Δ653 sl. carbonaceous, ## sl pyritic & pyrrhotitic dk grey, dk grey weath chert-ss to f. grained chert possible eglm (note - may be volcaniclastic)
sl. calcareous matrix, locally w/ graph. QZ MS schist partings
Compn banding @ 017/27 NW ex.

Δ654 highly pyritic, locally extremely rusty weath QZ IT and QZ-MS ± CL schist, locally w/ traces of dissem SL and GA

S_2 @ 122/19 NE ex
F_2 @ 142/00 good (minor folds, λ = ~ 10cm, very not recog)
overall S_1 not measurable

Δ655 as above, more CL rich interbands

compn banding @ 122/67 NE fair

Rest pyrite

Δ656 massive to vaguely banded dk brn, mod → dk grey brn weath (locally sl. rusty) volcaniclastic. Clasts to 1cm dia, flattened Rock is v. tough, rings when struck

Banding only seen in float, not in O/C

Δ657 highly pyritic v. rusty weath QZIT and QZ MS-BI schist

F_2 axes @ 340/08 good (mean fold, λ = 2m, 3 veg)

~~S1~~ # S_1 @ 060/24 NW good

Δ658 contact between lt grey sl calcareous QZIT (overlying) and black graph, sl rusty weath QZ-MS schist (below)

Contact @ 018/63 SE ex

// a .2m thick fault zone of chloritized gouge

top/bdge @ contact w/ Astin

Lead Jerguson July 7/78

Δ659 thinly banded, much deformed (main F_2) high pyritic, rusty brn - orange weath intermed comp schist (QZ >> BT+MS)

S_1 @ 127/09 NE ex

F_2 @ 351/06 ex (mean fold, 2 veg, λ = 1m)

Δ660 thinly banded, highly cleaved pyritic intermed. schist, underlain by pyritic, v. rusty weath - QZIT and QZ-MS schist w/ mean int. banded graph QZ-MS schist

Penetrative S_2 @ 114/22 NE ex

Comp banding // S_2 (defined by graph bands)

Δ661 massive to well banded dk green to drab weathering serpentinite, locally pyritic & rusty, locally highly asbestiform

Comp banding @ 137/59 NE ex

Δ662 as above, massive, locally mottled texture (relict OL or PX?)

no banding visible

Δ663 thinly banded calcareous QZ BT-MS schist

(Kechika)

F_2(?) @ 316/16 fair

S_2 (ax ⌀ to ⤵) @ 042/26 NW fair

Traverse along N ridge July 8/78

△664 as above
cmpn banding 11 well dev schistosity @ 000/45E good
minor folds on cmpn banding surface @ 063/14 km (λ = 2 cm veg rel veg)

△665 Calcareous, thinly bedded (banded) QZ 355N (grade)

Cmpn banding @ 031/72 SE exc
minor folds @ 038/19 exc (λ = 1 cm, veg. rel veg)

△666 thin pbly as in △663

Stratigraphy (?) @ 000/29E ex.
minor stretching @ 114/16 good
(pebbles)

△667 graphitic QZ MS schist

S2 @ 108/03 E good
F2 lineations @ 205/03 km

△668 as above
S2 @ 138/03 NE
F2 @ 333/05

further NE along ridge

△669 Non-calcareous QZIT and QZ >> MS schist
S2 horizontal (good)
F2 minor folds (λ ≤ 1m, 3 veg) @ 272/06 good

mixed above ?
F2 @ 019/17 exc (2 veg λ = 0.3m)

mixed above that
S2 @ 099/12 NE ex
F2 @ 072/03 ex (2 veg, minor folds & lithons)

△670 Massive lt gray weath dk gray fresh sl thinly delonite
no bedding visible
minor CA-QZ veining (pink weath)

△671 highly contorted locally sl. gran calcareous micaceous QZIT (locally QZ > MS schist)
S2 @ 088/09 N good
F2 lithons @ 317/02 good
Most depos of cmpn banding

△672 med gray weath dk gray variably calcareous limestone. Thickly bedded

compn banding @ 087/65 S exc
(F1) minor fold, (λ = 15cm, S verg)
@ 277/05 (fair)

△673 highly deformed QZ-CA-BI MS schist, locally v. rusty weath, avg med brn

ill defn & complex. no consistent element measurable

△674 fault zone ~ .6m wide between overlying carb. black siliceous limestone & underlying QZ-CA-BI-MS schist. Zone appears to be mylonitized, two samples taken, (a) from near limestone side and (b) from near schist side.

△675 siliceous carbonaceous limestone as above.
Compn banding @ 078/62 NW exc

△676 as above.

compn banding @ 058/30 SE exc
(F1) minor fold @ 094/30 ax
(λ = 1m, Z verg looking E)

△677 QZ-CA-BI-MS schist
(Keetuka)

schistosity ‖ compn banding @ 067/22 SE ax
minor ripples on 121/17 fair
compn banding surface @

△678 as above QZ-CA-MS-CL-BI schist
much deformed.

compn banding ‖ schistosity @ 094/33 S fair
minor fold (no cleavage assoc) @ 134/11 good

△679 dk gray brn slates w/ carbonaceous phyllitic partings. Well bedded, non calc, highly siliceous
compn banding @ 120/17 SW ex
mineral streaking lineation @ 119/16 exc

△680 thinly bedded pale to med gray QZ>MS schist & QZIT. Nm pipelike, non calcareous

schistosity @ 012/51 SE exc
fold axis @ 051/34 ax (λ = 10 cm,
Z verge facing NE)

△681 graph. to carb. QZ-MS schist, w/ v. minor felsic schist interbeds (QZ-MS schist, of rusty weath)
F2 minor folds @ 321/02 good
(λ = 20cm very not certain)
S2 not developed

transversing ridge S of camp July 9 '78

Δ682 outcrop between poorly banded qtz camptn schist (andesitic tuff) in NE and rusty weath QZ MS schist in SW.

S1 // camptn banding @ 168/76 ex
Fr lithons // min stretching @ 349/16 good

Δ683 / alb massive to vaguely banded locally amygdaloidal andesite.

Δ684 - banded w/ camptn schist; dk grey brn fresh, weathers locally rusty dark grey brn.

S2 @ 134/41 NE ex.
Fr lithons @ 318/16 good
(S very looking NW.)

Δ685 as above

S1 @ (// camptn banding) 033/78 SE exc
Fr minor folds (2 way) 179/26 good
" @ 122/28 NE good

Δ686 thinly banded QZ-MS-CL schist, locally rusty weath

S2 @ 121/15 NE ex
Fr lithons 342/11 good
S1 @ 3?

Δ687 thinly banded v. rusty weath pyritic QZ MS schist and QZT

S1 // camptn banding @ 157/55 NE exc

Δ688 as above

S2 @ 138/26 NE exc
Fr minor folds @ 354/17 ex. (λ = 0.9m, Z-way)

Δ689 - thinly banded QZ-BI-MS-CL schist, locally calcareous (andesitic tuff)

S2 @ 119/19 NE good
Fr minor folds @ 018/14 exc

Δ690 well banded QZ-MS schist, dk. to med rusty weath Locally w/ disparitious bands to 1cm width and disseminated blebs to 2mm dia of MG

Weathers to "spotted" schist, rusty, to white w/ dk grey lenticular "spots"

Δ691 interbanded calc to graph QZ-MS-CL schist and rusty QZ-MS schist
overall S1 (dl camptn banding) @ 175/41 E exc
S2 @ 162/16 E exc.
Fr lithons @ 161/00 good (2 way)

Δ692 calc to dl graph QZ-MS schist. Non calcareous locally v. rusty, No felsic interbeds (tuff seq. of andesite?)
S1 @ 039/74 SE good
S2 @ 039/42 SE exc

traverse E of Clay Ridge July 19/78

△693 ✱ calcareous ± silty QZIT
well banded
compn banding @ 022/06 ± SE exc

△694 well banded calcareous QZ-BI-MS ± CL schist

overall compn banding @ 015/47 SE fair
S2 well dev @ 114/12 NE, bitan not dev
exc

△697 carb. to graph QZ-MS schist, locally v. sl. rusty weathg thin calcareous

S1 compn banding @ 018/47 E
exc

△698 carb. to graph QZ MS schist w/ minor felsic, sl rusty weathg QZ-MS schist interbands

overall compn banding @ 031/15 SE good
S1 @ 073/40 E ex
F2 minor folds (λ = 5m, Sverg).
@ 142/27 exc

△699 v. calcareous well banded siltst (duff ?)

prob — minor fold @ 180/08 (λ = 3 m, Z verg)
looks somewhat like △693 banded calc

△700 ? thinly calcareous QZ-MS-BI-CA? CL schist, locally sl. pyritic & rusty weath
Overlain by highly graph QZ-MS schist w/ rare felsic interbands
S1 @ 141/33 NE ex
F2 minor folds (Z verg, λ ± 2 cm ± 1 m)

overall compn banding 115, @ 132/60 SW 121/74 exc good

Δ701 variably calcareous QZ-MS-CA-BI ± CL schist overlying graph w. rusty weath siliceous QZ MS schist.
S1 (comp banding 11) overall @ 025/-3 SE fair
F2 minor folds @ 131/33 ax
S2 @ 197/52 NE fair.

Note looks like Kechika but is more MS rich - weathers silvery grey, not distinctive grey brn like Kechika (but still could be Kechika) - also contact w/ Black Bird is interbanded, not a thrust fault.

Δ702 as above

S2 @ 117/51 NE ax
F2 folds @ 082/11 good - very not vc.

Δ703 - pink weath locally brecciated (CA matrix) massive med grey dolomite, md thinly banked med grey dolomite w/ MS rich schistose partings
S2 @ 159/16 E (poor)
comp banding @ 051/24 SE (good.)

Δ704 thin banded dolomite as above. Much minor defm.

F2 @ 101/03 fair
S2 not necessary
S1 totally gone.

Δ705 blocky weath fg grained, locally sl porphyritic rusty QZ-MS-BI CL schist, sl bxd calcareous (and tuffaceous?) greywacke
No structures measurable.

Δ706 carbonaceous to graphitic QZ > MS schist and minor QZIT

S1 11 comp banding @ 102/33 SW ex L
F2 @ 120/06 ax c
S2 @ 141/31 NE good.

Δ707 massive to vaguely banded micritic siderite/intermediate schist
S2 @ 138/50 NE good
comp banding @ 052/32 NW good
11 S1

Ridge E SE of camp. July 13/78

Δ708 v. rusty weath., pyritic QZ-MS schist and QZite, w/ much QZ veining

S2 @ 139/46 NE exc
Si, F2 rel. mean, barely vis.

Δ709 bands of massive SL + PY ± MGA in felsic locally chloritized schist. Bands are 2 → 17cm thick, cmpnable w/ cmpn banding in schist. Occur near contact of felsic schist w/ massive to vaguely banded andesite

Δ710 thinly banded rusty weath pyritic tuffaceous cherts and cherty tuffs. Locally abundant felsic fragments to 1cm dia visible (sample)

Δ711 massive, well-banded, locally highly pyritic, pinpoint BA rock. Cmpnable w/ host felsic schist cmpn banding (sample(a)) Ass w/ massive bands of CL+PY to 8 cm thick, locally w/ much MG ass. (sample(b)&c)

BA lenses 2–2½ m thick

Δ712 calcareous well banded andesitic tuff

Si // cmpn banding @ 016/59 E exc
S2 @ 115/39 NE good
F2 @ 016/38 good

Δ713 thinly banded pale to med grey bn. locally w/ pl rusty bands (traces of PY) interval. tuff w/ schistose partings
Cmpn banding @ 034/60 SE exc
no other struct visible

Δ714 – calc andesitic tuff as above
much minor defm

Prob. 4th fold axes @ 139/06 (exc) (λ = n. 3M, neg plunge)
w/ ax ℓ @ 139/74 NE good – no clvg dev.

Δ715 QZ BI-CA-MS schist w/ graph QZ-MS schist interbands

overall cmpn banding // Si @ 172/55 NE good
F2 @ 172/39 (exc) λ = 2m, Z veg looking SE
S2 not dev.

Δ716 interbanded QZ-BI-CA-MS schist and graph QZ MS schist

Si // cmpn banding @ 056/55 SE ex
Annealed crypto on banding surface, (λ = 1cm) @ 190/26 good
Annealed lin @ 083/34 good

Δ717 thinly banded pale to med grey bn. locally w/ pl rusty bands (traces of PY) interval. tuff w/ schistose partings
Cmpn banding @ 034/60 SE exc
no other struct visible

Δ718 – calc andesitic tuff as above
much minor defm

Prob. 4th fold axes @ 139/06 (exc) (λ = n. 3M, neg plunge)
w/ ax ℓ @ 139/74 NE good – no clvg dev.

Δ719 QZ BI-CA-MS schist w/ graph QZ-MS schist interbands

overall cmpn banding // Si @ 172/55 NE good
F2 @ 172/39 (exc) λ = 2m, Z veg looking SE
S2 not dev.

Δ720 interbanded QZ-BI-CA-MS schist and graph QZ MS schist

Si // cmpn banding @ 056/55 SE ex
Annealed crypto on banding surface, (λ = 1cm) @ 190/26 good
Annealed lin @ 083/34 good

Δ717 Graph Qz - MS schist w/occasional felsic bands.

S1 ≈ comp banding @ 122/90 ex
S2 @ 126/66 NE good
F1 chev (λ = 2cm, S vers) @ 122/07 good

Δ718 Andesitic lapilli tuff Fragments of intermed volcanics to 2 cm dia
(forest sample)

S2@ 157/42 NE exc axes of folds not meas.

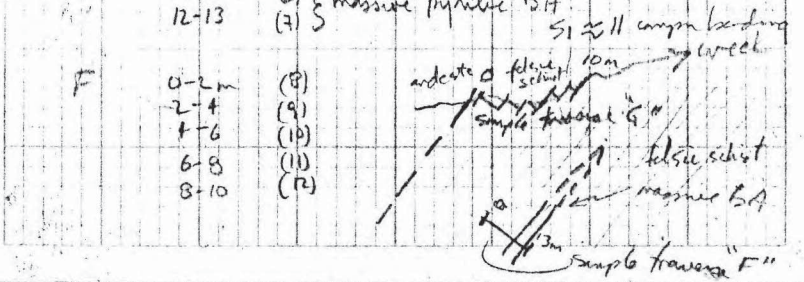
Section "E" @ new showing in MM Creek July 14/78

Section "E"

Δ	—	Δ	B.S.	F.S.	Dist (slope corr'd)
E-1		E2	142° (142)	142°	161'
E-2		E-3	148° (146)	147°	377'
E-3		E-4	041 (041)	041	287'
E-4		E-5	028 (029)	026	676' 1492
E-5		E-6	025 (025)		308' 1800
E-5	-	E-7	113 (112½)	112°	470 2270
E-7	-	E-8	049 (049½)	050	246 2492
E-8	-	E-1		029	

Chip Samples

G	0-2m	(1)	pyritic felsic schist locally w/ banded SL±GA
"	2-4	(2)	
	4-6	(3)	
	6-8	(4)	
	8-10	(5)	
	10-12	(6)	massive pyritic BA
	12-13	(7)	
F	0-2m	(8)	
	2-4	(9)	
	4-6	(10)	
	6-8	(11)	
	8-10	(12)	



Lbg N of 1st camp July 15/78

Morning

Δ719 contact between sl. calcareous, locally sl. rusty weath QZ CL MS BT schist (volcanic tuff) — underlying (sample) interbedded rusty weath graphitic QZ MS schist
S_1 ∥ camp. bedding ∥ contact @ 174/59 E (ex)
S_2 @ 061/16 SE good
F_2 @ 142/13 (ex) (3 varg, λ ~ .2m)
in graph schist

Δ720 siliceous calcareous to graph, locally sl rusty weath QZ > MS schist w/ no felsic intrus.
S_1 @ 162/51 E ex
S_2 a 061/12 NW fair
F_2 @ 341/02 good (5 varg)

Δ721 as above
overall S_1 ∥ camp. bedding @ 172/18 E good
S_2 @ 097/14 N ex

two sets of xenoliths (@ 142/19 ex)
in camp. bedding surfaces (@ 098/22 (ex)

Δ722 as above
S_2 @ 143/12 SW ex
F_2 lithon @ 233/16 good (7)

Δ713 as above
S1 // compn banding @ 178/32 E ex.
mineral streaking lineation @ 076/31 ex.

Δ714 white to buff, pl rich, weakly mineralised QPCIT

F2 minor fldsp 049/00 (ax) (Zverg, λ = 25cm)
S2 @ 109/06 NE fair
overall S1 // compn banding @ 032/66 SE exc

Note DD grid B/L 60 runs @ 010° ex

Δ725 highly calcareous QP CA MS-BI schist
(sale-sodalite-fluff?)
NO, this is the same as Δ730 - just above SD dolomite
overall S1 // compn banding @ 151/90 good.
S2 @ 121/30 NE good
F2 @ 331/02 ex

Note B/L 80 S ; is ~097 → 098°

Δ726 graph schist O/C @ 180, 52W

DD claims SE of July 17/78
MM creek.

Note: B/L 30W runs @ 006° 555 = grid north, from compass

Δ727 well banded graph QP MS schist locally
Nasty weath w/ interband to > 0.5 m
of QP, black chert, and pyrite Q717 ssstn
and flattened pebble calm (sample)
S1 // compn banding @ 175/46 E ex
S2 @ 159/19 NE good
F2 kinks & mesoscopic folds (λ = 1cm - 2m
Z verg) @ 037/19 good

Δ728 dyke, fine to med grained, vaguely foliated
trends ~ N-S, chilled, not seen onto
graph QP-MS schist, intermediate compn.

Δ729 calcareous to graph QP > MS schist
w/occasional interbeds ↓ 1.5 m thick
of nasty weath felsic QP-MS schist

S1 // compn banding @ 142/51 SW ex
S2 @ 153/30 NE exc
F2 kinks (λ = 1cm, Z verg) @ 152/12

Δ730 calcareous "spotted" QP-MS-CA + CL
chert overlying massive highly veined
SD dolomite
as in Δ725

overall S1 // compn banding @ 166/61 SW ex
S2 @ 161/32 NE ex
F2 kinks @ 158/00 good very well dev.

Δ731 as in Δ230
S_1 // campn banding averaged @ 010/85E good
Fr folding & minor folds (λ = 1cm - 1m, Z vergence) @ 019/00 fair
S_2 @ 160/10E fair)

Note BL 30 W is tentatively @ 006°
T/L 80S is @ 098°

Δ732 massive Dolm (N/much Qz-CA veining) to thinly banded med to dk grey subcaccous Dolomite w/ narrow interbands (~ 3m thick) of graph Qz MS ± campn banding in thinly banded Dolo @ 089/61S ex

Δ733 thinly banded carbonaceous to graphitic Qz-MS schist. Non-rusty

S_1 // campn banding @ 054/22SE ex
F_2 minor fold axes @ 094/26 ex (Z vergence looking NE)
S_2 @ 140/26NE good

Δ734 highly carbonaceous MS-CL-CA-Qz schist as in Δ230
S_1 // campn banding @ 168/19E good

Δ735 thinly banded Qz-CA-MS-BT ± CL schist
S_1 // campn banding @ 163/90 good
S_2 @ " " 131/27NE
F_2 minor folds @ 151/00 good (Z vergence)

Δ736 fold nose in massive banded highly pyritic BA w. traces of GA & SL (much HZ)
BA in at contact between Qz-MS-BT-CA schist and pyritic QZIT and Qz >> MS schist.
BA is minimum 3 m thick, may be same thick (fold nose) thickening

traverse on ridge NW of 2nd camp. July 18/75

Δ737 vgudy banded melaandesite, locally almost massive. Blocky to platy weath.

Campn bearing @ 175/83 W (ex)

Δ738 as above

* campn bearing @ 012/30 E (ex)

Δ739 calcareous Qz-MS-CL-Bi schist (andesitic tuff?)

F2 @ 340/05 fair
S2 @ 005/03 E fair
much F2 defm.

Δ740 calcareous topogph Qz>MS schist thinly banded; overlying (strat) rusty weath. mod. coarse, leached Qz-MS felsic schist
overall S2 @ 152/39 NE good
F1 folds (S vergence) @ 136/10 (poor)

Δ741 med to dk. grey, locally sl orange weath highly calcareous Qz-CA-MS-CL ± Bi schist
overall S1 (1 campn bearing @ 000/68 E fair-good
S2 @ 131/20 N vge
F2 folds: campn folds (S vergence) @ 158/20 ex

Note: Baseline 60W @ 43S departing N is @ 006½°

Δ742 massive, dk green highly magnetic foam serpentinite
* note Δ742 is mined N of 32 ☒ 56W

Δ743 mod. rusty weath Qz-MS schist w/ mod. mafic (Py) porkam (to ☐) by graph to calc. Qz-MS schist w/ Qz veining
overall S1 (1 campn bearing) @ 177/90 ex
S2 @ 171/46 E fair
F1 (mesoscopic folds Z-vergence) @ 162/04 fair

Note: @ Line 24S 56W have O/C of graph Qz MS schist w/ felsic schist interbands.

Δ744 calcareous to sl. graphitic Qz-MS schist w/ occasional interbands to 0.3 m thick of fine grained felsic lapilli tuff (?) (strat)
Campn bearing 1S1 @ 139/39 NE ex
* loc on L 24 S 51 ☒ 30 N

Δ745 mafic banded felsic, sl rusty Qz-MS schist and calc to sl. graph Qz-MS schist
campn bearing @ 000/15 E ex

Δ716 as above, pradan. felsic schist

Gossan banding @ 125/77 NE ex

Δ747 massive to vaguely banded volcanic
w andesitic tuff.

Banding @ 061/85 SE good

Notes from July 14/78 ("Section E"

New new showings on MM Creek (E-9)

Δ748 V. rusty weath Q2 MS schist Minor Q2 veining
S1 // compn banding @ 152/44 NE ex
S2 welldev @ 138/53 NE ex
orient ≈ of F2 fold axes not meas

Δ749 (E 10) thinly banded Q2-BI-CA-MS schist
w/ recessive CA rich bands ± 1 cm wide

overall S1 // compn banding @ 022/44 E
S2 @ 139/56 NE ex
F2 lithons @ 122/33 good

overlain sheet by interbedded graph Q2 MS
and rusty weath felsic schist

Δ750 (= E 11)

rusty weath felsic schist, locally highly pyritic (to 15%)
and recessive weath. structurally overlies massive to
vaguely banded andesite S1 // compn banding @ 010/57 E ex
locally w/ thinner interbanded (1/4 m. thick) of CL > Q2 + MSS1 ul
w/ thinner interbanded SL and minor GA

Creek Sample Traverse down MM Creek
below 2nd camp July 14/78

MM6 Grab PDBM-6 (L 45) @ RL to 165
(Soap)

B/L 30W 47/150 S @ main creek
sample PDBM-7 ↓

PDBM-13 is at last bend, opposite
tributary creek right bank creek

PDBM-14 L is in Main Creek, right
beside PDBM-14

PDBM-18 is right beside PD7M-P1

PDBM-22 is last sample on North of ↓

PDBM-29 is directly across the creek
from PDBM-15

Line on S side of Cr crosses R/L 30 W
F2 way ⇒ PDBM-28/29

L 485 31/2 @ 1550 Mag from PDBM-38

Traverse ridge N of Seagull Cr Pg 7 to 9
about 3.5 km

Weather - low overcast, drizzle starting @ 11:00 hrs

Δ780 calcareous med grey brn lutites
QZ BI-MS-CA schist (laminated tuff)
Cayn banding 115, @ 088/76SE good
≥ @ 122/33 SW (ex)
Fr folds (very not reg) @ 263/26 (good)

Nearby (same o/c)
Fr meso scopic axis @ 278/16 ex
axial plane verging to N
λ/2 ≅ 3 m

Δ781 float (2 small subrounded to subang boulders)
of pyritic felsic schist (QZ-MS-CL)
w/ traces of finely disseminated GA

Δ782 blocky weath, locally massive, of calcareous
@ T/L 805 194 red grey brn, locally of pyritic QZ-BI-MS schist
Vague cayn banding 115, @ 150/22 NE

Δ783 s/c of felsic QZ-MS ± CL schist
pale spicy green to rusty orange-yellow weath
Locally w/ cubes of Py to 1 cm across
and irregular blebs of MG
- small boulders of bedded BA w/ traces of GA in float

Δ784 as in Δ282 ~~sch~~ ^ Qz-Bt-MS schist

compn banding // S1 @ 070/65 NW good

Note sample PD8E-43 in ~ @ 7/L 80S 15W

Δ785 as above, compn banding // S1 @ 045/80 NW good

minor felsic schist in float

Δ786 large F1 mesoscopic fold in carbonaceous, pl calcareous, pl rusty weath, Qz-MS±CL schist

S1 a bedding ex.
F2 lithons / meso. fold axes (λ = 2m, 8 wvgs)
@ 168/00 ex

Δ787 pl calcareous, pale grey-green locally pl rusty weath Qz-MS-CL-Bt schist

S1 @ 173/18 E ex
F2 lithons (5 wvgs) @ 139/09 ex
overall compn banding @ 140/90 ex

Δ788 rusty brn to pale lustrous grey weath MS-CA-Qz ± Bt ± CL schist
(base of thrust plate)
S1 @ 008/51 E (ex)
F2 mesoscopic fold & lithons (5 wvgs on meso fold @ 210/05 (ex)
overall S1 // compn banding @ 020/73 SE (good)

Δ789 massive weath, dk grey-green, Qz>CL-MS-Bt schist

compn banding @ 010/85 W ex

Δ790 highly sheared and deformed pale grey to dk grey-green LSTN
compn banding @ 085/90 ex

(F2?) tight isoclinal minor fold (λ = 30cm, amp = 5cm, 2 wvgs) @ 282/08 (fresh)
@ pl of minor fold // overall compn banding

Δ791 graph Qz-MS schist,
compn banding (S1) @ 100/75 SW good
F2 wrinkles on bedding surfaces
@ 103/15 good

Δ792 S/C of CA-MS-Qz ± Bt ± CL schist (lower portion of thrust sheet)
locally pl carbonaceous
Note sample taken in much more chloritic than typical

Δ793 highly graphitic Qz-MS schist, locally pl pyritic and rusty weath

Traverse on ridge E of Seagull Cr Aug 8/78

△794 fine grained, pale grey green, grey weath, locally sl rusty CL MS-QZ schist

overall compn banding @ 148/90 fair-good
S_2 crenulation cleavage @ variable ex
F_2 lithons and mesoscopic folds (λ on folds $\cong$ 0.5m, very) @ 143/00

△795 f grained locally pol. subvolcanic pale grey LSTN
Bedding @ 038/10 SE ex

△796 as above

Bedding @ 108/41 S ex

△797 thin bedded sl limy, sl. rusty weath QZ MS. CL orchid

Weak dev. crenulation cleavage @ 126/57 NE ex
lithons @ 128/02 ex (2 very, poor)
overall S_1 // compn banding @ 112/28 W [illegible]

△798 very large Z fold defined on thin to medium bedded pale to dark grey micritic limestones

fold axis @ 142/05 (trend ex plunge from)
and PL @ 153/40 NE (locally wobbly dev on PL surf)

$\lambda \cong$ 25m Z very tight SE

Traverse SW of camp
Weather:- Sunny & 1100, then heavy drizzle

Aug 9/78

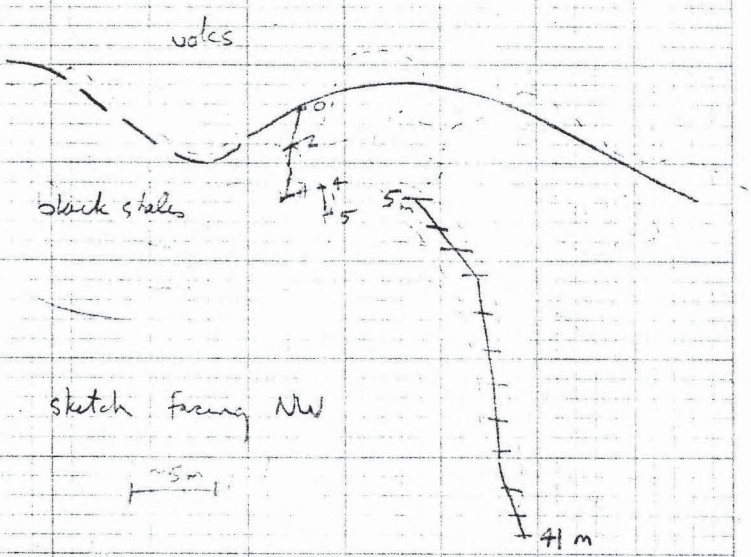
Δ739 ft. rusty with no coherence QZ MS ± CL shot boulders of pegmatite

S1 comp banding @ 053/55 NW ex
S2 not seen

Chip Sampling @ head of EROS Cirque

Aug 11 '83

Sampling starts @ contact between massive intermed + felsic volcanics (overlying) and locally rusty weath'd black shales. Samples taken on 2 m intervals



Traverse SW of EROS — Aug 12/78

Weather CAVU in morning, clouding over by noon.

△801 medium to coarse grained diorite dyke, approx 5m wide, trends 063°/90 fair locally w/ pyroxenite to hornblendite
Locally coarse & fine grained zones (chill zones)
Xeno inclusions (samples)
Cuts fine grained med gray brn, non-calcareous, locally dk rusty brn weath. tuffs.

w/ bedding @ 48/17 SW ex.
poorly dev. clvg @ 108/34 NE ex

△802 mafic sill, fine grained, dk gray to black fresh weathers red brn.

△803 buff weath pale gray limy argillite and tuffaceous argillite
Overlies 4 DMS along ridge crest.

limy argillite & tuffaceous argillite overthrusted by massive, blocky, buff to dk rusty brn weath pale gray fine grained tuff (samples)

△804 thin bedded, red gray brn, dk calcareous, locally dk rusty weath med gray brn weath fine lapilli tuff, fragments to 3 mm.

Bedding @ 105/38 NE ex
clvg @ 132/32 NE ex

△805 mafic dyke as in △802 trends ~ 028/90 Nm

△806 fine grained buff to dk gray, non calcareous thin to med bedded QZ (55%)

Bedding @ 007/47 W ex

△807 Kechika limy dyflites. u Ord
pale gray to buff weath
compn banding @ 196/13 SW ex
schistosity/well dev clvg @ 120/46 NE ex
lithon axes // (compn banding x schistosity)
@ 120/00 (Z weg)

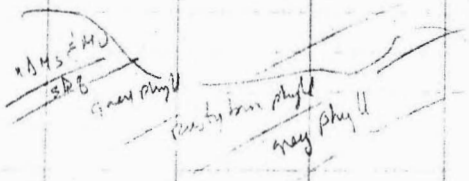
△808 as above w/ chitty bands to 2 cm thick
compn banding @ 113/13 NE ex
clvg @ 136/31 SW ex
lineation (tilt axes, S weg) @ 129/00 ex

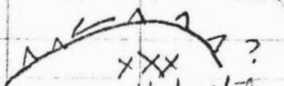
△809 as above, buff weath
compn banding @ 112/20 NE ex
clvg @ 093/05 S ex
lineation (compn band x clvg) @ 278/05 good

△810 as above, d. dolomitized red brn weath
compn banding @ 089/31 N ex
clvg unmeasurable
wrinkle in compn banding surface @ 266/06

△811 as above, d. dolomitized red brn weath, locally v rusty
compn banding @ 092/16 N ex
clvg (crenulation) @ 109/54 NE ex
lithon axes (S weg) 295/05 good.

Note: black shales noted in canyon ~ 2 miles S of EROS in core of large fold





may represent yet another slice of uDMs — check by chopper loop — need ~½ - 1 hour — drop off at top of canyon, walk ~ ½ mile to pole camp

No, more likely NE black phyllites (but not noc → check)

△812 Thinly bedded (rusty - buff weath pale to med grey dolomites w/ shaley to phyllitic partings
Compn banding @ 080/16N W ex
clvg @ 088/54 N ex
minor S fold w/ axial w/axes @ 302/09 ex
λ = 1 in

3 & 4 DROC ?

DROC CLAIMS Posts 1 & 2 DROC 13 & 14 staking NE
located — Staked Aug 8/76 S. Gunn (Utah)

△813 ~EO of buff to pale grey phyllites
compn banding @ 174/38 W good
clvg (subvertical) @ 098/20 N ex
minor fold (Z verg) @ 318/19 good

△814 Thinly banded buff toned grey brn v. limy phyllites and calcareous siltstones
~EO sl (isoclinal) (or NEc?)
compn banding @ 038/05 N ex
clvg @ 132/24 NE
vague wrinkle on compn banding surface @ 120/00 good

△815 med rusty brn laminated to thin bedded calcareous
Bedding @ 005/05 E good
Sl not visible

Weath:- scattered cloud, Aug 13/78
v. windy, v. cold, occasional heavy showers all afternoon
back to camp @ 3:00

△816 thinly bedded carbonaceous to graphitic slates, locally v. narrow (~ 1 mm) tuffaceous bands. locally v. rusty.

Bedding @ 138/22 NE fair to good overall

plunge { Crenulation clvg @ 111/43 NE ex
Lithon axes @ 108/10 ex
(λ = 5 cm, wavelength)

another crenulation clvg locally dev @ 078/01 N
w/ lithons @ 333/16 ex (λ = 5 cm 2 varg)

O/C ex 6 ft clvg breaks to 1400 E

→ bkt mag: 097½° (1400 → 1300)

△817 thinbedded carbonaceous to ol graphitic locally sl rusty weathering black slates

Bedding @ 060/29 SE ex
Penetrative clvg @ 030/53 SE ex
vague crenulation on 108/11 good

△818 massive buff weathering dk grey siliceous dolomite
Bedding not visible

△819 ~~UEO~~ sl limy phyllites, buff weath

Compn banding 113/18 NE ex
crenulation clvg @ 168/43 SW ex
Lithon axes @ 329/12 ± 2 varg ex

△820 as above, med. lustrous grey weath
compn banding @ 132/33 NE good
Minerals on banding surface @ 302/04 good
clvg not visible

△821 as above
Compn banding @ 032/15 E ex
clvg @ 124/49 SW good
lithons, lineation not visible

△822 large Z fold in rx as above
axis @ 248/16 good λ ± 2 m
ax pl clvg well dev. @ 080/48 S ex

Note swpting E clvg b/c from 5300 Purbid line is @ 109° (sighted over 200')

△823 as above
compn banding @ 108/21 NE fair good
clvg (crenul) @ 110/41 NE fair-good
Lithon axes (very ~~not~~ wavy) @ 290/02 good

△824 pale grey to med rusty brn weath thinly bedded | dk grey siliceous sl limy phyllites

overall compn banding @ 124/57SW (pole to)
clvg well dev'd @ 100/45 NE ax
lithic axes (λ = 20 cm, tr vrg) @ 300/16 ax

Note ~ 100' NE of △ is end of a flagged line

△825 rusty weath black siliceous slates (as △824) overlain by narrow (≤ 10m) fine grained v. rusty weath felsic lapilli tuff (?) w/ trace of GA(?) finely disseminated (Sample 825-b, also rock chip PESM-1R) overlain by >30 m of massive, med grey grey, sparkly green weath (locally sl rusty), locally sl. pyritic, med grained intermediate flow or sill (Sample 825-A)

Note Rock chip PESM-2R is from rusty siliceous black slates in float ~ 20 m below contact w/ volcs & slates

△826 lapilli v. rusty weath black slates
bedding (overall) @ 153/30 good
penetrative cleav clvg @ 123/22 NE ax
lithic axes @ 145/0 very well dev'd

forms part of large Z fold w/ λ ≈ 15m

Traverse NW & N of camp Aug 14/78

Weather: light drizzle in morning, scattered ground fog, occasional sun by 11:30 + blue bird on afternoon

△827 thinly bedded rusty brn to med grey weath, med to dk grey brn sl siliceous siltstone, argillite, tuffaceous argillite, and tuffs
Bedding @ 148/57 NE ax
s1, L not seen

△828 uEOs1 limy buff to light grey phyllite
compn banding not visible
penetrative clvg/schist @ 128/59 NE ax
crenulation clvg surfaces @ 330/15 ax

△829 thinly to thickly bedded pale to med grey brn weath, med grey sl siliceous lapilli tuff (or grey wacke) locally v rusty yellow felsic tuff zones to 0.7 m dia
Bedding @ 001/49 E good
clvg @ 136/30 NE good

△830 uDMs black graph siliceous slates overlying (structurally) uEOs1 limy phyllites

in uDMs bedding @ 145/49 NE ax
clvg @ 140/45 NE
lithic axes @ 329/02 (Z vrg)

in uEOs1 compn banding @ 103/54 NE ax
clvg @ 010/42 N ax
lithic axes @ 304/32 ax

Samy.

△831 thin to med bedded buff to med rusty brn weath f-grained pale grey ol pyritic tuff

Bedding @ 168/22 E ex
clvg @ hairy good

△832 thinly interbedded red grey brn ol calc. fine-grained lapilli tuffs and carbonaceous black siliceous shales

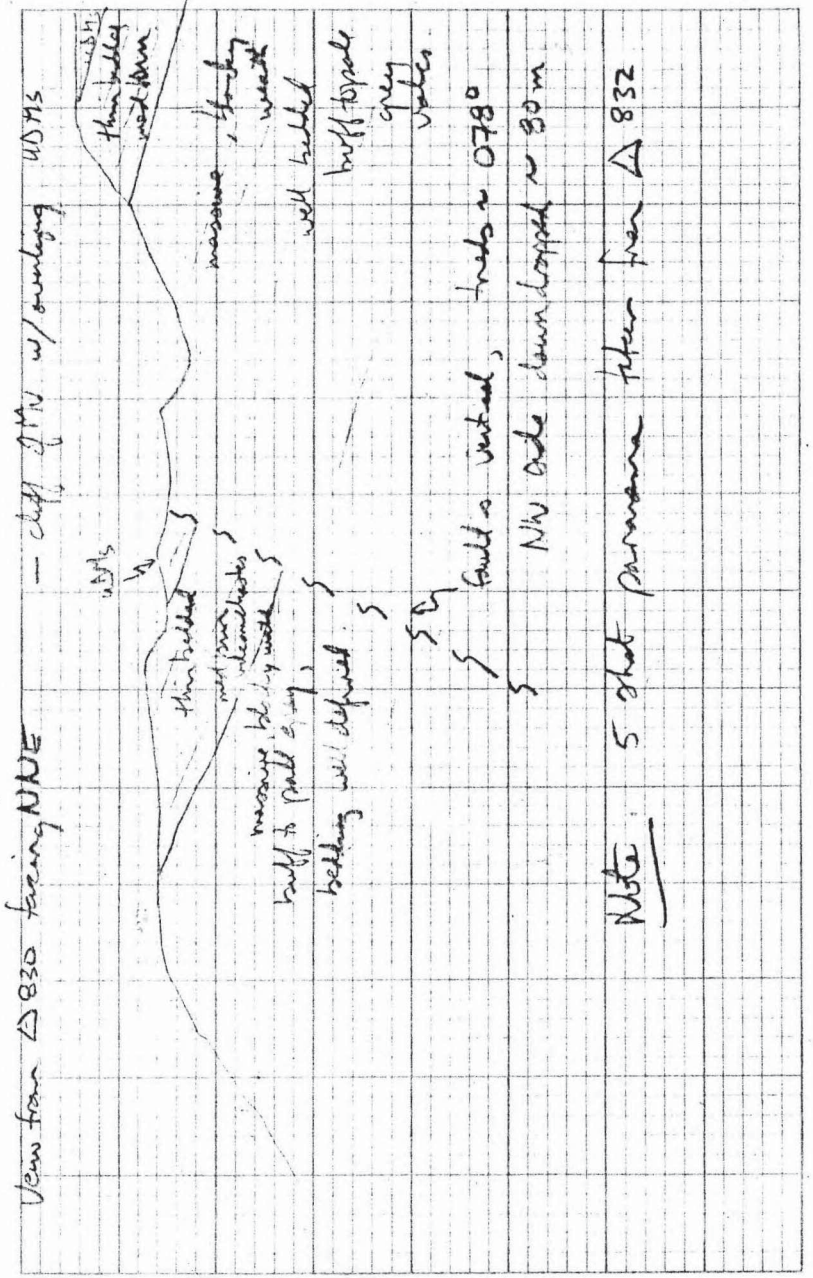
Bedding @ 008/31 E ex
vague clvg @ 078/12 SE ex

△833 as above
Bedding @ 116/19 NE fair-good (taken from other side of argue)

△834 as above, w/ buff to dk grey cherts, carbonaceous and tuffaceous cherts

Bedding @ 042/08 SE ex
clvg @ 027/28 SE ex

△835 Bedding 152/32 NE ex
black siliceous thin bedded shale



△836 thin bedded, locally rusty weath. lt grey, locally carbonaceous, locally fl. tuffaceous
black & lt grey w/ platy lt grey partings
Bedding @ 001/NE ex
rogue ripples on surface
@ 125/08 good

△837 Mb thin bedded tan to rusty orange
chert
Bedding @ 028/18 SE ex

Traverse S of Ekos, W of TCLE Aug 1978
(W of Katipo R – chopper set out)
Weather socked in till 12:00, snow, variable, < 100 m
variably

△838 carbonaceous grey phyllites
comp bedding 115, @ 173/12 E poor
locally well lam. cren cleav @ 034/12 E good

△839 highly sheared, carbonaceous
& Carnitage red grey green Lapilli tuffs
bedding / comp bedding @ 142/07 NE
cleav @ 145/16 NE good

△840 buff to dark grey (mainly med grey)
variably carbonaceous grey phyllites
w/ minor thin bedded pale grey tuffaceous chert
comp bedding @ 076/27 SE
poorly dev cren cleav @ 076/29 S.

△841 highly sheared, variably chloritised
fine grained tuffs, lapilli tuffs,
and minor tuffaceous chert
w/ minor interbeds of carbonaceous
grey phyllite
comp bedding @ 093/40 SW
cleavage, locally dev crenu.

Δ842 Thinly bedded med to dk grey sl. rusty weath cherts and tuffaceous cherts
Bedding @ 108/04 NE ex

Δ843 as above
bedding @ 050/05 SE ex

Δ844 med brn to red grey fgrained tuff and tuffaceous chert as above
Bedding @ 142/12 NE ex
clvg poorly dev @ 140/04 NE good

Δ845 thinly interbedded fine grained buff to red grey brn sl. calcareous, locally sl. rusty weath lapilli tuffs and pale grey brn tuffaceous cherts
Bedding @ 125/39 NE ex
clvg @ 067/13 SE ex

Δ846 thin bedded pale to med grey, sl. chloritized, sl. pyritic, sl calcareous lapilli tuff w/ minor siltstone and fine grained greywacke interbeds
Bedding @ 045/30 SE ex
clvg @ 035/15 SE good

Δ847 thin interbed (< 1m thick max) of v. rusty weath (highly pyritic) felsic lapilli tuff, interbedded w/ grey green chloritic lapilli tuffs and fine grained siltstone
Bedding @ 056/16 SE ex

Δ848 black shales & slates overlying fgrained pale grey, calcareous lapilli tuff
Bedding @ 000/53 E ex

Δ849 thinly bedded, calcareous, buff-weath dk grey slates
Bedding @ 116/28 ~~SE~~ NE ex
Bedding x clvg @ 299/12 ex
clvg not visible
Note locally has a vaguely phyllitic sheen
underlies the lowermost uDMS, has overall appearance of undeformed uEOs! — maybe /Ec?

Δ850 uEOs! : blotchy weath hiny phyllites
common bedding @ 110/51 NE good
rare clvg @ 112/34 NE ex
lithon axes @ 233/02 ex (Sum)

△851 massive highly veined buff to grey weath DOLMY & massive carbonaceous fine grained quartzite

Apparently overlies ↓ DMS
Bedding not meas.

△852 fine grained, med gray brn X cutting dyke, ~ 3m wide
NO — is fine grained Qz-Kspar cstn w/ Calcite cement
Grains are well rounded
siliceous

△853 Hard, slaty, locally rusty weath

Bedding @ 135/30 NE ex
Parallel clean @ 123/81 NE ex

854 E fan to dk grey thin bedded cherts.

Bedding @ 160/18 E ex

Traverse on ridge ⇔ Seagull Cr Aug 19/78
& McConnell R. (Matt, Gail, JD)
Weather: CAVU

△855 massive blocky weath, locally sl pyritic coarse grained syenite.

△856 highly sheared f-grained Qz-Ms schist/phyllite. Locally sl pyritic & rusty weath
planar fabric well dev. (S1) @ 130/78 SW
lineation (mineral elong) @ 210/68 ex
crenulation banding, not well dev
Locally w/ clean Qz "eyes" to 1cm dia
Probably sheared felsic tuff

△857 coarse grained agglomeratic clasts of reg equigranular syenite to 15 cm dia in a pale to med green matrix
Blocky, massive weath.

△858 massive med grained cream white syenite. May be felsic phase of intrusive, ie sill, or dyke.

△859 thin bedded v. f grained med gray brn to buff weath tuffaceous chert. In SK, bedding not meas.

△860 massive med to coarse grained syenite as in △858. Prob bleached chert zone

△861 thinbedded f grained pale grey tuffs and tuffaceous cherts, sl rusty weath

Bedding @ 032/14SE ex

lineation on bedding surfaces @ 129/00 ex

△862 as above highly sheared

compn banding @ 085/25S ex
drag @ 197/11SE ex

△863 as above, w/ minor felsic tuff interbands

Bedding @ 098/62S ex
lineation (Bedding x S.) @ 122/00 ex
S. notes.

△864 interbedded pale grey sl pyritic tuffs and black slates (in S/C) overlain by massive to thickbedded fine-grained med grey brn tuffs.

Bedding @ 156/42NE (poor to fair)
lineation @ 060/41 (ex)

△865 massive, blocky weath, coarse-grained aplitic granite. Vague compn banding defined by feldspar compt of mineral
About 30 m wide (+ridge) zone of coarse grained aplitic granite w/ abundant mafic to leucocratic xenoliths to 0.3m in width, up to 25% of rock

△866 thinly bedded cream to tan to pale grey cherts and tuffaceous cherts

Bedding @ 088/43N ex

△867 as above, w/ interbands of med brn recalcareous tuffs (or f-grained flows) and minor siltstone

Bedding @ 110/42NE ex.
drag @ 095/42N ex

△868 black to dk brown highly sheared slates w/ minor interbanded med brn tuffs

drag @ 130/29NE ex
bedding not vis.

Commute to North of Aug 19 traverse Aug 20

Weather: high broken overcast, light wind, cold

Δ869 highly deformed, locally dk rusty weathd black slate & phyllite

small bedding (slaty/phyllitic partings) @ 075/09S ex

clvg @ 114/30 NE ex

minerals: Lin: ⊥ bedding XS. @ 096/00 ex

Δ870 med gray-grn weathd dk calcareous, highly sheared lapilli tuff.

Inclusions: slate ⊄ Δ869

Bedding @ 116/41 NE ex

clvg @ 150/26 NE good

Δ871 rusty weathd black slate & phyllite

Bedding @ 132/64 SW (ex)

clvg @ 122/27 NE (ex)

mineral ∥ Bedding XS. @ 132/00 (ex)

Δ873 thin bed (w. pyrite, v rusty weathd felsic tuff), overlain by dk green, med grey-green weathd vole (as in 872), interlam by black slate. massive sequence, BA in sub rounded boulders in black slate float nearby

Bedding (@ 112/33 NE good

Δ872 massive med grained med to dk grey-green pyroxene volcanic (flow or sill)

facing NE 5m

No pillows seen.

uDMs

.872

pyritic felsic tuff

Δ874 thinly bedded, well cleaved med brn to med grey-grn, non-calcareous tuff

Bedding @ 108/10 NE good

clvg @ 119/45 NE ex

Δ875 v dk SC & GA w/ much Hz, rusty med brn lapilli tuff, locally also have Hz coating

Outcrops at top of uDMs unit (old Kano Hill track)

Δ876 dk rusty black siliceous slates

Bedding @ 057/60 SE ex

clvg @ 084/30 S ex

Δ877 thinly bedded siliceous phyllite. Cut by Kashiba, but is siliceous & non calcareous

Bedding @ 120/90 ex

cren clvg @ 178/39 NE ex

lithon axes (⊄ veg) @ 018/05

△878 v. rusty weath highly pyritic pale to med grey green siliceous tuff or chert
Blocky weath
no bedding visible

△879 ⊂Dq massive ^ cream to buff fine grained non calcareous QTiT

△880 as in 878 - apparently immediately above underlying Dq.
Locally red grey green — prob chloritized siliceous tuff.

△881 fine grained trachytic (syenite)
- prob same intrusive body as 878 & 880

hoppin hopping Aug 25/78
near Greyling Lake.

△882 massive sl pyritic non calc, red brn andesite or lapilli tuff

△883 carbonaceous, variably calcareous (mod to highly) phyllite (Q2-MS schist)
compn banding overall @ 165/68W tent
cren cleav well dev @ 092/35 ex NW
lithons @ xcs @ 325/26
(Sverg)

△884 pale green interbanded f grained limestone and calcareous Q2-CL-MS schist
overall compn banding @ 138/82 NE ex
cren cleav @ 090/23N tent
lithons & minor fold axes @ 324/31 ex

△885 thin to med bedded cream colored pale grey weath f grained LSTN
Bedding @ 100/26 SW ex

△886 ⊂ above w/ interbeds of pale grey cream highly calcareous Q2-CL-MS schist
Bedding @ 121/68 SW ex
minor fold (λ = 1m, Sverg)
@ 117/02 ex
cren cleav. badly dev in schist @ 108/25 NE good

△887 buff weath, med grey fr fr laminite
Qz/T
Bedding @ 068/30 NW ex

△888 uEOs/ fining fissilites, buff to med grey, well
bedded st carbonaceous

overall anticl bending @ 104/62 NE good
drag @ 082/05 N ex
bottom (minor foldaxes @ 288/02 ex
(Z way)

Aug 14th

Mountain E of EROS (across valley)

1003 med to thick bedded pale tan to pinkish brn (grained sandy ltd ss w/ narrow interbeds of fn slate med grained black gtz ss

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 a purplish brn weath, med to dk grey phyllite - not noticeably carbonaceous

So 11 S1 (compn layering) @ 020/24 SE ex

much deformed by later warping

1005 med grey to orange-tn weath med grey brn lining phyllite

compn layering S1 @ 133/52 NE ex

- truncated by non-foliated K-spar porphyry (hbl monzonite) dyke @ unknown orient

1006 contact between lining phyllites w/ large (to 1mm thick) gtz lenses on the E and flaggy weath med grey to med brn. thin-bedded calcareous siltstones. In phyllites

So 11 S1 @ 119/45 NE ex

The flaggy calc siltstones have pyrite porph blasts to 2mm dia one in narrow bands

w/ S1 @ 158/47 SW ex

S0 @ ~~110~~ 110/62 N ex

much buff gtz in the flaggy siltstones

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

1011 finely interlayered calcareous & rusty weath carbonaceous black phyllite and fine grained sl thick dk gray and white striped med grained marble.

S. // compn layering @ 158/71 SW (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 // S. @ 037/30 NW ex

- unit has a mottled texture (patches of pale gray carbonate to 0.5 cm dia in black groundmass)
- Pyrite concentrated in white to pale gray marble bands
- locally boxwork after pyrite is present — euhedral cubes to 1 cm diameter

1013 non calcareous black phyllite, contains both narrow bands (< 3 mm thick) of pyrite and pyrite cubes to 1 cm dia.

So not visible

S. @ 079/85 NW ex

1014 thinly banded massive weath med grained dk gray and white striped marble, locally sl micaceous.

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

1015 thinly bedded interbedded pale tan med green calcareous chlorite metavolcanic and cream, rusty weath med grained marble. Rare interbeds of rusty weath non calc black phyllite

S. // compn layering @ 033/40 NW good

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

S. // compn layering @ 005/50 W ex

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

1017 Thinly bedded cream and dark grey rusty weath mod. graded marble w/ black phyllite partings and slightly calcareous pyritic black phyllite

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

1018 pyritic highly calcareous chl ± ms phyllite (rusty weath) w/ abundant qtz ± vein interbeds w/ marbles as above

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

1019 dl rusty weath non calc, carbonaceous siliceous phyllite.

S. // compn layering @ 025/31 W (ex)

1020 dl. 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 metawacke or v. siliceous qtzite.

S. poorly def. @ 031/13 SE (ex)

So not visible

1022 dl. calcareous rusty weath black phyllite. Poorly defined siltstone layers

S. // compn layering (faint color banding) @ 049/27 NW (ex)

appears to strike over the ridge.

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

Aug 17th

Qnika Cabin
overcast clear occasional sun, occasional rain

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

vaguely foliated (flow texture)
@ 093/64S ok

1024 large rotated blocks to 5 m 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 as. banded grained pyritic syenite as above, w/ diffuse zones of finer grained basaltic(?) syenite - v. dk grey brn fresh

- prob metasomatized syenite. ?? it occurs within 10cm of as grained unaltered syenite

1026 massive as gr. sl pyritic med pinkish brn syenite

1027 ferricrete cementing large sub-rounded boulders to 5 cm dia of dk green massive chloritic metavolcanic, massive rusty weath chloritic as gr. magnetite, and med grained pyritic syenite.

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

1028 as grained locally rusty weath pyritic pink to creamy brown syenite. Massive. Pyrite occurs as cubes to 1 mm diameter both disseminated and as fracture fillings. No other sulphides present

1029 v. rusty weath, v. pyritic as. grained syenite. Pyrite fills fractures in the rock. Fractures are randomly oriented, has appearance of a "shatter-pie". Only pyrite is present, no other sulphide!

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

1030 Visible pile of large (to 2 m diam) subangular boulders of epidotized metavolcanic (intermediate to basic comp), locally v. conc'n of magnetite and/or pyrite (see sample)
U. mostly 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) Mussy argillite

1032 Fine banded pale grey brn to dk grey siliceous phyllite (meta cherty silt?) in angular S/C Nw pyritic, iron stained zones

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

Foliation (S1) @ 084/74 N ex

Aug 18th

Traverse down E side of Mt Mussy (SE of ERob)
- low overcast, occasional sun

1034 basal contact of Aksten unit. Thin bedded fine ash to grained nar calc, pale to med grey gt zones conformably overlies nar calc black phyllites w/ irregular silty bands. Contact is sedimentary - minor interbedding over ~ 2m @ contact

Bedding (S0) @ 029/31 NW ex

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

1035 contact between black phyllites as above and underlying interbedded phyllitic grey - grey weath siltstone and calc phyllites and dark maroon - grey weath locally siliceous volcaniclastics (crystal? K-spar? porphyroblasts to 1.5 cm). The volcaniclastics consist predominantly of fine maroon med grained material w/ some recrystallized texture as seen on NW side of Mt Mussy - maroon weathering ash? Also have thin interbeds of red to dk green - grained chloritic schist

S0 @ 162/24 W ex

- volcaniclastic/tuffy phyllite interbedding is on a scale of 5 m → 20 m

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

1036 Interlayered rusty calc maroon and green metavolcanics as above and sheared pale to med brn locally rusty weath, calcareous metavolcanic — green spots (chloritized mafics) and K-spar(?) porphyroblasts or relict phenos in a pale brown medgrained grano-lepidoblastic matrix — highly sheared — may be intrusive — possibly flat?

So 115° @ 162/22 W ex

Section is both the overlain and underlain by limy phyllites

1037 fine to v fine grained rusty weath dk grey limy phyllites and phyllites highly calcareous siltstones and marbles

So @ 122/36 NE good (overall)

Si @ 108/20 N ex
= poorly dev crenulation @ 095/90 ±

microscope F1 fold (λ = 15 m)
@ 104/00 (fair)
S vergence.

F2 crenulation @ 096/10 fair

1038 dk maroon and olive green med brn metavolcs. (calcareous, thin) as in 1036. Maroon argillite bands narrow (<1 m) & rusty weath calc-silicate

So 115° @ 050/24 SE ex

1039 sequence of dk maroon clastic volcs overlain by black phyllites; dk grey fine grained qtzites, section ± 15 m thick overlain by thin to med bedded SD qtzites & dolomites

So @ 123/23 SE ex

samples from the qtzites w/in the black phyllite section

1040 fine grained tan weath, med grey, dk dolomitic qtz ssts med to thick bedded

Bedding @ 111/20 SW ex

1041 buff to tan weath, locally dk rusty, non calc, tan dolom, fine to med grained qtz ssts (rare cross bedding present ⇒ tops up)

Bedding @ 088/34 N ex

R D PENHALL LTD MADE IN B C DUKSBAK WATERPROOF

1042 sl rusted blocks of fn to pale gray weath lamy phyllite

1043 buff to rusty fn weath sl. calcareous med gray f grained gtz ss fn.

Bedding @ 125/42 NE ex

1044 buff weath massive fine-grained dolom gtz ss fn.

1045 massive med gray f. grained gtz ss fn.

1046 sl rusty weath p. siliceous black phyllite thinly interbedded w/ felsic volcaniclastics

So @ 162/13 E ex

1047 thinly bedded f pale to med brn weath metat 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 meta volcaniclastics w/ orange weath ferroan carbonate lenses

4 EOS 1v

1049 pale green to pale grey brn f. grained volcaniclastics and volcanic carbonaceous

Bedding @ 005/27 E ex

overlies black shales in S/C

1050 sheared rusty orange weath med to cs grained volcaniclastics and carbonaceous felsic lapilli tuffs.

So @ 069/19 SE ex

So not visible

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

P between Seagull Lakes & Aug 19th /05
Edwards & McLeod R.

1051 massive med grey brn to pinkish brn weath dolomite
Bedding nd visible

1052 med to thick bedded med grey brn sandy dolomite and dolomitic fine-grained quartz sandstone
Bedding (S) @ 205/37 E (ex)
(S?) locally well developed @ 058/48 SE (ex)

1053 thick bedded dolomitic qtz arth and sandy dolm
Bedding @ 052/39 SE (ex)

1054 sheared, shattered qtzite. Dk grey. May be in part a quartzose siltstone. Maybe basal Askin or possibly Reed River — Askin thrust sheet sliding on basal Reed River layer?
S/c only.
- also in S/C is a foliated pale to med grey green pyrite metavolc — pyrite cubes 1 to 2 cm dia — probably Mit

1055 Thin bedded (grained pale grey weath dolomitic qtzite with red brn black qtzite Bedding on scale of centimeters — has ribbon banded appearance
Bedding @ 080/50 S ex
- Askin

1056 stained pale green to pale rusty brn weath foliated lapilli tuff.
- all rotated blocks

1057 poorly foliated & rusty weath med grey brn lapilli tuffs and minor pale green volcanics ?
foliation @ 081/78 S ex

1058 blocky weath non foliated med brn weath meta lapilli tuff.
very dense rock - almost looks like a volcanic but shows good clastic texture

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

1059 med grey brn basalt tuffs, locally
L. rusty weath

S. @ 078/78S ex

Ridge E of Arse Aug 22/80

Low hanging clag, occasional heavy rain showers

~~Hot~~ Snowing !! after 11 Cm !!

Note undetected incl lane from Arse to Bid (Line 112) bears 072° clag S edge of Bid grid

1060 massive med to dk grey weath variably shattered (L.S. to mod) as pr argillite -

1061 massive as pr usual argillite as above

Note lines from NW corner of Bid grid as follows

B/L 40W, 96S in corner
also base line of grid

B/L @ 162° cross lines @ 072°

1062 as pr usual med grey-green Hbl bearing basaltic argillite
Massive, ~~not~~ blocky weath

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

1065 med dusky brn weath rather highly sheared sericite ± feldsp felsic tuff (probably the tuff)

S/C only. If tuff, it is forming a very small "patch" on the surface of the Cygnet body

1064 fine grained dusky brn weath qtzite or felsic tuff. Rock in part ramified (as when 10m S/C sericite intact) Abundant qtz-carbonate veining, locally as coarse grained pyrite in qtzite

Folding (defined by bed boundaries in the rocks and by sheared veining surfaces) @ 089/26S ex

1063 Calcsilt med to dk grey to pale buff; matrix is pl. micaceous. Fine black phyllite clasts are present.

Foliation S1 @ 050/40 SE ex

1066 poorly to moderately foliated pale to med grey green weath med to dark grey green metamorphosed volcaniclastic. May be a highly alterized version of Mvt

All in shumpblocks

Very abundant qtz ± ferroan carbonate veins ~~in~~ variably present in tuffs.

1067 tuffs and S/C of dusky weath as grained qtz-carb veins as above, plus silicified and/or ramified block (phyllite, fine grained magnetite ± pyrite rock, pale plus dark to med green weath calc as above appears to be a shumpblock near the Cygnet body

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

in nearby S/C S1 @ 126/43 SW

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R D PENHALL LTD MADE IN B C DUKSBAK WATERPROOF

1069 foliated/sheared medium weath lapilli + crystal tuff or possibly sheared syenite — probably tuff.

S1 @ 088/46S ex.

1070 med grained pyroxene syenite pale gray-tinged gray-buff weath Massive and foliated. Pyrite occurs as irregular blebs and as cubes to 2 mm dia. meter

1071 Layered pale to dark gray coloured [illegible] pale green [illegible] and white [illegible] weathering finely laminated [illegible] attitudes [illegible]

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

ridge east of Arse. Aug 25/80

N to B/L 010 W 43+50 S to flagged — located @ 4130'

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

1073 O/C sheared syenite. Degree of shearing varies chaotically 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 minerals on the shear surfaces. The fine grained rocks tend to be slightly greenish throughout.

2 samples

Foliation (approx) @ 090/52 N grad

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

1007 black siliceous phyllite w/ narrow interbeds (< to several cm) of fr. red gray siltstone. Also a layer of fabric, pale to med brn weath tuffaceous?

S0 // S1 @ 103/27 N ex

w) M + Mut — as in EROS shell zone

Anise claim: Aug 16th/80

Lens west case

1008 sl to moderately rusty weath, sl. to m. calcareous carbonaceous phyllite & (grained schist

comp. banding // S1 @ 020/10 NW ex

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

comp. layering // S1 @ 015/43 NW ex

L2 crenulation @ 253/42

1010 non calc, rusty weath., carb phyllite as above w/ narrow (< 1 -> 8 cm thick) interbeds of sl. calc. siltstones that are sl. paler grey than the bulk of the rock. Much calcareous drusy qtz OK

comp. layering // S1 @ 060/19 NW ex

- a well dev. crenulation (L2?) lineation on S1 surfaces @ 272/19 W

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

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

Note Δ1074 is on a bearing of 062° from BL 0 W, 43+15 S ~100-150 yds away

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

Much M&F tuffs and tuffaceous cherts (?) coming down in float from above

1076 Thinly laminated (bedded) cream to pale green to med grey siliceous phyllites and ~~phyllites~~ phyllitic qtzites (meta tuffs and interbedded tuffaceous and carbonaceous cherts)

Strongly foliated (poorly dev. folds locally visible). A later crenulation cleavage (S3?) is present on the phyllitic surfaces @ a high angle to the S_0/S_2(?) fabric

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 M&F tuffs as above w/ fine grained chloritized syenite. Has large subangular blocks of highly chloritized mafic? Dyke intermediate in composition as rubble locally highly pyritic & rusty weathering within the fine grained syenite, near the contact. Contact covered by rubble

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W of Esaquela Lake (on road)

1079 med to thick bedded buff to pale grey massive delicate and delicately sandstone

Bedding @ 052/31 SE ex

appears to directly (conformably) overlie limey phyllites

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

1082 limy phyllites & phyllitic silty rich grey limestone (thin bedded) with red to dark grey volcaniclastic or highly sheared volcanic interbeds

all in slumped blocks.

1081 limy phyllites directly overlying 4DM black phyllites in LCPs ⚠ 1241

S_0/S_1 @ 063/10 NW good.

Ridge E of Anvil — Aug 26th

CAVU - old

no wind

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

S_0 (bedding) @ 000/29 W ex

S_1 (?) @ 145/38 SW ex

↖ pervasive foliation, no lithons visible.

S_1/S_0 intersect (F$_1$) @ 208/32 ex

1083 as above but more thinly laminated — cream to dark grey. Some beds sl. porous and granular in appearance — probably tuffaceous?

S_0 @ 075/17 NW ex

S_1 not det.

1084 massive sl. pinkish, sl. rusty weath, equigranular ss. equigranular syenite — ~ 10-15% mafics. Has irregular mafic border zones — much chloritic rock xplets — hydrothermal alt'n of syenite? Dk green fresh, dusty brown weath

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

1085 mixed between as grained felsic syenite (<5% mafics, pl. quarty w calls) & thinly banded (bedded) metagabbroic sill in ⊿ 1083.

Contact is a steep fault, mineralized @ 003/76E (ex) w/ steep slickenlines @ 035/65 (ex) can't work out sense of slip
Bedding in sects @ 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 interbedded w/ the metagabbros

1086 massive, locally sheared chert pebble cgln. Clasts to 4 cm diameter sub-rounded, pale grey to grey green frags in pale grey mm blc. matrix.

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

1087 as grained (felsic (<5% mafics) Syenite in contact to east (on S/C) w/ highly carbonaceous phyllite

1088 pale green sheared f. grained Syenite or felsic metatuff in S/C

1089 massive pale green fmate ^ med. grained syenite. Pervasive green color (epidote) in addition to <5% dk green clinopyroxene mafics.

1090 red to dk grey banded siliceous phyllite and phyllite pale grey siltstone

all metatuff blocks

1091 as above. bedding @ 078/56 NW ex

not visible

1092 ~5cm thick bedded massive pale red dolom and thinbedded calc. silic ftz sandstone.
bedding @ 142/27 SW ex

Appears to be in the steep fault contact to E w/ uDM & carbonaceous blocks.
fault trends 160° & 20°

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

1093 3 samples — badly marbled slabs striking structurally below the Askin @ ± 1092 dipping v. gently to the NE. Consists of f grained metabasite w/ very vague pillow structures, brittle recrystallized ultramafics? (w/ porphyroblasts) fine grained diabase, and v. rusty weath gtz-carbonate rock. This unit structurally overlies uDM black phyllite. The meta basic prob is approx 100 - 150 ft. thick.

1094 v. thinly laminated crossbedded ± to moderately calcareous medium to fine grey siltstones w/ phyllitic partings. Much calc. drusy on weathered surfaces. X bedding shows tops are up (see sample)

Bedding @ 126/05 good.

prob uDM, not Askin

1095 ±/c of rusty weath non-calc. black phyllite.

uDM

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

v strongly deformed by F_2 – can get sense of original bedding

S_2 recrystallization along well developed subparallel lithon axes @ 105/00 ex

(convergence on lithons & F_2 minor folds)

Askin

1097 mottled grey bedded rusty weath calcareous phyllite. v. blocky weath

Much deformed by F_2

S_2 @ 125/17 NE good

L_2 (F_2 axis/lithons) to 121/00 good/fair

1098 phyllite pale grey to buff weath f grained marbles and highly calcareous phyllite locally looks somewhat like uFO s1, but in the whole, the unit is more typical of Askin.

Pervasive S_2 @ 082/46N ex

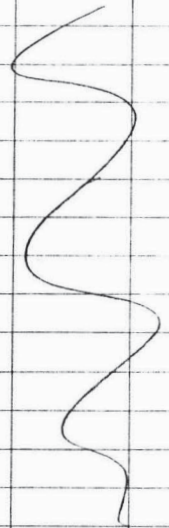
L_2 (lithons) @ 085/00 ex

Nearby ±/c of ± phyllitic marbles – S_0 @ 102/56S ex

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

1099 phyllitic [qz] grey marble — Astin ass'd w/ pink weath massive dolm (in S/C)

pervasive S_2 @ 112/11N on L_2 crenul wrinkle @ 087/00 good



go to 1300's

July 10th, 1980 LCP

HOWRU TRAVERSE
SUNNY and CLEAR in AM

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 m 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 crenu. cluge 100/75S
S_2 structures have N vergence

S_0 comp banding 160/40W
S_1 flttn 100/70S
L_1 S_0 on S_1 270/45W
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 qtz to musc qtz with minor disseminated pyrite. In places massive with minor qtz eyes locally. Also got coarse clastics — lithic clasts containing small qtz grains
Metavolcanic sequence marks this as a dirty tuff. Angular clasts are flattened in flttn

S_1 flttn 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 flttn poorly & variably developed. Massive material includes chlorite ± calcite stretched amygdules
S_1 flttn 110/60S

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

S_1 flttn

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. Have a green mottled appearance from dark green chlorite in vesicles.

1106. S_1 flttn 120/40S

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

1107. S_1 flttn 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 this location. Locally vesicular.

Band of limy phyllite within the greenstones.

Pencil rodding strong because of intersecting cleavages

S_1 flttn 90/80N

S_2 flttn 15/10W

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 bedded. And finally back into vesicular flows -

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

1109 S, flow 110/65 S

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

As go South

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

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

Buff phase 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, flow 110/90

1111 S, flow 90 Hor / 60 S

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

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

1112 Massive grey ASKIN orthoquartzite

S, flow 105/80 S

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 towards W on Si at roughly 30°. May be slickensides on 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 the location

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

Si flts 120/70S

Black calcareous phyllite with thin boudinaged dark grey limestone layers Si surface of phyllite shows thin So compositional striping

At 5540' – Si flts 120/40S
So lying 120/85N

Pale green poorly foliated phyllite Fine-grained, noncalcareous.

5660' Black shale with mica thin dolomite inkeboards Phyllite to calcareous. Si gently dipping into hill – not measured because may be slumped

Rest of gully uphill consists of abundant subcrop of black phyllite chips.

ERAS CLAIMS Aug 11, 1980 LCP

1115 S_1 flts at 5650' in gut
S_1 135/25S - at lowest extent of outcrop
MUT limonite-orange weathering outcrop

1116. S_2 flts 70/40W
S_1 flts 45/25NW
Dark grey to black, well foliated phyllite. S2 crenulations clvge locally well developed. Qtz veining common in region of S2 clvge

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1117. Noncalcareous, pyritic, felsic tuff
MUT Small stream outcrop - gut barely present.
S_1 flts ?? not readily apparent
Muscovite-bio chlorite. Veins of qtz + feldspar?

HOWARD AUGUST 12 BOLCO

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 (comment?)
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 - probably metachert.

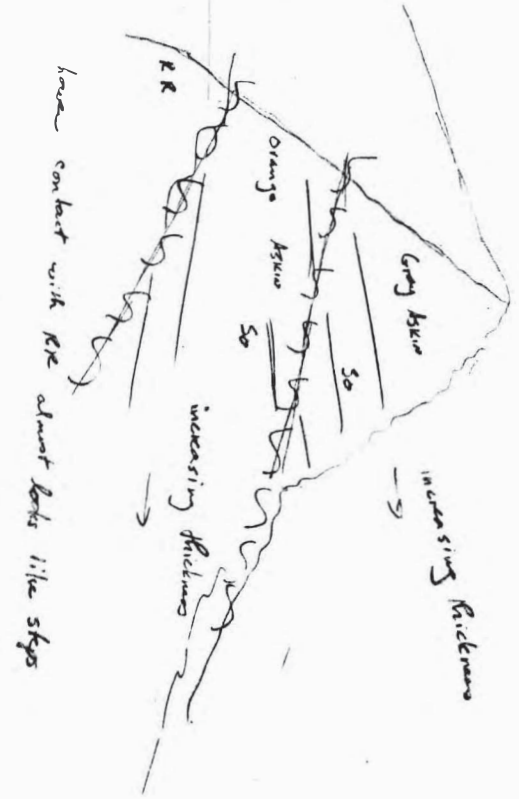
So ≈ S1 film 125/40S

Contact with overly Askin is at least partly tectonic. Askin sections truncated against black phyllite as come uphill to the east. To west down 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 beds of limy more phyllitic material. So and 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. blast 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°

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to go N along ridge.

① Minor massive to foliated chlorite-mottled phyllite

② Interbanded

- ⓐ pale green calcareous siltstone
- ⓑ limestone
- ⓒ grey phyllite
- ④ volcaniclastic material.
- ⑤ Rubbly kettle lithologies

S_1 fltn 110/80N

So bedding 100/70S

S_2 fltn 135/35NE crenulation

S_2 fltn causes open folds - horizontal axial planes - roughly horizontal fold axes Open warps - but not tight folds here

See only a few S_1 minor folds - isoclinal

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

1125 S_1 foln 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 weather to orange color. Can see cross-bedding features in siltstone. Siltstone noncalcareous to slightly calcareous. Looks very similar to HOM on drill core at EROS.

1126 Pale tan weathering dolomitic qtzite. Have come up mainly through talus Thick to thin-bedded
S_0 bedding 90/45S
Occasionally see evidence of poorly preserved fossils

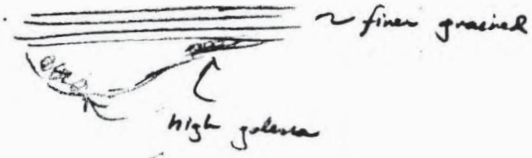
1127 S_0 bedding 105/35S
Pale tan ASKIN sandstone. Dolomitic
Contains irregular to subrounded xploklasts of galena There are up to 1cm in size

Also present in non-carbonate lithologic

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 instance see what appears to be a scour feature in rocks with galena mostly more extensive in coarse scour



Photos

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

August 13, 80 LCD

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 foln 160/90

S2 cren cl/vgc 005/10E

Next outcrop to N is coarse volcan. clastic Carbonaceous lapilli tuff - coarse fragmental volcanic black shale.

MT MISERY

1130. So bedding 005/35W

All Askin Fm Vo cont have dolomitic gtzite to sandy dolomite with boudinaged interbeds of grey orthoqtzite. To west have thick to thin bedded grey to black Askin orthoqtzite.
Saddle consists of siderite or ferroan carbonate with galena Vein? Old workings are here.
Dolomitic qtzite v 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 lying 005/30W

1132 Contact between overlying dark grey to blackish Askin orthoqtzite and underlying black phyllite (Road River)
Phyllite contains abundant carbonate in foliation (S1 and S2
S1 foln (general) 135/75NE
S2 foln (general) 160/60E
Abundant white qtz veining in phyllite
Phyllite is noncalcareous
Phyllite to siltstone.
Strong cleavage edge 0/80E
Contains thin black bands which are slightly calcareous.
Also have a thin band of light weathering to off-white material (tuff?) This material contains rusty-weathering pyritic zones

1133 S1 foln 90/25S
110/25S
Dark brown non calcareous laminated siltstone Weathers to a very very dark

rusty brown. Seems to contain oolitic textures with coarse mineral grains.

Contains ~ 5-10 ft thick fine-grained felsic sill or dyke. Massive - ~~appears to~~ cuts across S1 fabric. 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 little bit of felsic igneous material.

Large S2 fold in Kechika-lining phyllite in N side of outcrop. Fold has ~~Z~~ vergence looking south.

Limy phyllite is thin platy variety with ferrite weathering

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

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By ANISE CLAIMS

1134. Small subcrop trenching on N side of road.

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

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

S1 flat 105/30S

S2 crenulation 83/70S

lin F.A. on S2 crinkle 26S/15

1136. Roadside debris & possible subcrop now consists of ASKIN Buff weathering dolomitic sandstone

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

AUGUST 16, 1980

ANISE CHAINS – walk stream

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

S1 flat 165/35W

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

Lin L2 – F.A. on microfolds 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.

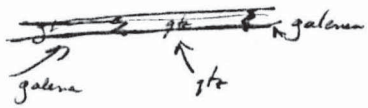
Metavolcanic of UDM. Looks volaniclastic in appearance but cannot see individual clasts or fragments Very schistose for massive volcanic. Grey color may indicate some carbon input (i.e. detrital).

Pyritic nodules roughly elongate subparallel S1

Strong S2 crenulations present

1139 N of L24 by 100 feet - outcrop extends to 150N 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 (2 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. S1 foln ≈ S0 125/50S
S2 crenulation 140/30NE
S3 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

S0 ≈ S1 Strong crenulations associated with later folding of S1

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

1141. Massive, foliated & sheared syenite intrusive. Probable dyke. At this location also got float of large boulder of pyrite - marcasite (?) No foln 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-cloud-white to pale cream. Variably foliated with foliation tending to be along zones. See more mica appearance & less massive appearance in these zones.

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

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

fltn 140/65S , 139/73SW

One thin band does seem to be dominantly gtk. 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 ferruginous calcite veins

SI Fltn 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 fltn. 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-colored 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 mutile blue tint. Dark minerals elongated along foliation. Appears to have 2 foliation directions

foln 45/70 S

125/60S * S1

Miarolitic cavities are filled with qtz

Medium grained equigranular

1153 cont.

After seeing some float on strike, I consider this a clastic rock. Contains black chert granules — streaked out in a light grey matrix. Minor amts of blue qtz 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 lyring 5/35W

S1 foln 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 foln 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 gray, fine-grained dolomite. Abundant qtz and carbonate veining

ASKIN ?!

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

Fracture — possible S_0 90/305

1157. S_1 flkn 70/30N

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

① lapilli tuff
② sheared syenite

Minerals or clasts are extremely elongate in S_1 Dominantly light grey to pink with minor dark grey. Also contains minor blue mafic-bearing qtz granite. 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. S_1 flkn 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.

S_0 bedding 005/40W

Abundant crinoidal 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.

S_0 bedding 40/30NW

Noted some dolomitic sandstone - rounded gravel size 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 taken at 6580'

Jet black, calcareous shale to phyllite Minor calcite veining

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1162. On hillslope at 6450'

First outcrop of purplish/green material at top of wavy banded limy phyllite 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 ut O Menzie Creek sequence. Colors are right for it being very rich in Fe.

Coarse milky white qtz veins

So layering - 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 flat $\approx S_0$ 95/255

S_2 crenulage 120/60NE

lin S_2 on S_1 115/15

S_2 minor fold AP 85/355

FA 105/15

Northern vergence open fold

Coarse boudinage in So bedding

Thinly interbanded grey phyllite and brown-tan weathering sandy limestone layering generally on a scale of < 1 inch. looks like good Vangorda

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1164. Contact between

maroon siltstones (SW) and

limy phyllite (NE)

siltstones do not outcrop - form rubble pile

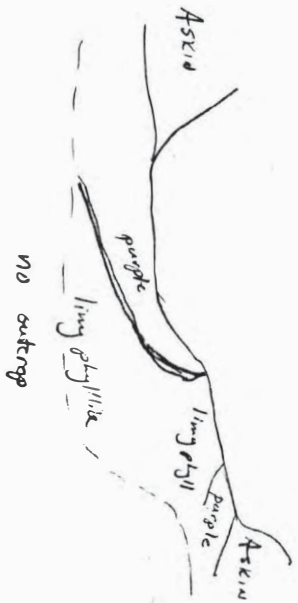
limy phyllite carbonate with thin phyllite partings Brown tan weathering - forms very fissile plates

$S_1 \approx S_0$ 100/40S

late fracture cleavage 105/60N

just beyond (N) of contact living phyllite contains dyke of fine-grained, massive, pale green phyllite. Contains minor disseminated pyrite - sometimes as fairly large cubes. Noncalcareous. Contains S1 fols. Contact difficult to tell but generally conformable with S_0 - S_1.

Picture of ridge just to West



1165 Approx contact between purple (above) & regular living phyllite (lighter colored) Very windy in this spot
Transitional contact
$S_1 \approx S_0$ 10/35E

1166 All living 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 orthoquartzite 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 (chips maroon to black) south end of ASKIN outcrop here can have ~ 75' horizontal extent of Road River (black)

S_0 155/25S

1168 cont Down ridge at 5900'
Lowermost Askin outcrop
So 175/40W
Dolomitic ptsilt

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.

1160. First outcrop as proceed down the ridge slope. Slope entirely black soil with chips of limy phyllite & black phyllite
Si fltn 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 bedded phyllite. Noncalcareous. Contains thin pyritic silty beds. Looks very much like WOH 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
Si fltn 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. Now pale green chloritic phyllite – fine-grained. In one case dyke/sill appears to have been porphyritic with white feldspar phenocrysts – these are now gently deformed 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 known to normal lining phyllite Vangorda at 6400' elevation. Some subcrop chips in stream gully

1172. Going down ridge to east (along it) 5840' above this have grass with abundant float of brick boulders. Here get brownish & reddish weathering calcareous phyllite to siltstone. Has ginger 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.

S1 foln 15/20W

5780' – black phyllite soil like @ 1171

5720' – thin ridge of brown float strike. Extensively brecciated & broken.

5630' – 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 on 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 are ca calcite. Also some large pyrite cubes - these units weather rangeish - look very similar to dyke/sill on material to the east.

Rocks strongly affected by late - near vertical crenulation cleavage.

S cren cleav 120/80S
FA for cleav 135/10

So at a moderate to high angle to S_1

S_1 135/20 E
So 115/35 N

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

S_1 flts 40/25S

1175 S_1 flts 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 clasts with same 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 layering. Cannot readily see any ribbon banding.

Contains minor black to dk grey coarsely recrystallized limestone. It forms discontinuous strips. Contains nodules of black chert. Weathers with nodular pattern.

1176. Si f/lm 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 layering ≈ Si f/lm 160/80W
Not like Vangorda – looks more like Road River from Quartz Lake area
Abundant carbonate veins – white

1179. So bedding 50/255

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

1180 S1 fltn 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 cleavage 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 fltn Pyrite with disseminated splotches of limonite Abundant qtz veining

1182 MVT

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

1183. S0 bedding. 105/15S

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

Flaggy material is medium dark grey limestone. with abundant siliceous partings It weathers to a very dark brown

1184. UDM black phyllite with thin rusty-weathering siltstone layers

S0 /fltn 65/30S

S2 crenulation cleavage 95/45N

Numerous siltstones - about 1-2 inch spacing

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

1185 Massive dark green equigranular metavolcanic Feldspr + mafics
Feldspars form coarse, randomly oriented microlites. Not a diabasic texture.
Minor disseminated pyrite

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

1186 Ferro-creek 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 f/tn 140/05 S
Black, noncalcareous phyllite. Minor disseminated pyrite. Thin rusty siltstone bands in float
UOM phyllite

1189 S1 f/tn 90/40S
Pale silvery gray-green phyllite
Musc > chlorite. Thin gray bands mark S0 bedding. S0 dips south at a steeper angle than S1

= lunch break

Aug 20 KCP

Traverse just South of McConnell River — east of Seagull Lake

1190 S_1 flth } forgot my
S_2 crenulation cleavage } 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 cleavage runs N-S and is near vertical Tuff dips gently ~20° to the N say about 120/30 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 phyllite (dike material). Again looks like equigranular pyritic altered dyke. Green phyllite form most of outcrop on ridge as we came down

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

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 interlayered 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 S_2 crenulation cleavage
$S_1 \approx S_0$ approx horizontal here.
S_2 dips steeply to N.
S_1 may have very gentle dip to S
$S_2 \approx 90/55$ N

Aug 21, '80 LCP

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

S_1 flts variable - black phyllite con. clvge 65/60 NW

Lowermost otcp/roadcrop dark green chloritic phyllite. Abundant brown weathering calcite veins. Occasionally contains clasts or sheared igneous texture. Interbanded with fissile grained light green chloritic phyllites — probably mafic metatuffs.

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 & slightly coarser grained than MVT. Obviously more basic composition

Then usually encountered on UOM - MVT

1196. S_1 flts 120/75 S

Black to dark grey phyllite UOM$_5$

Small roadcrop

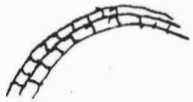
1197 S_1 flts 145/30 NE

UOM$_5$ black (lt grey) phyllite

AUG 22, '80 LCP

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

1198 S_3 Minor fold — Can see a crenulation cluge wrap around thin fold. looking NW



FA 318/20
AP 105/65N

S_1 foln 75/22N

ASKIN GROUP —

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

Dike of pale green, equigranular 14ut type with scattered large pyrite cubes.

lyring generally dips up to the E
S vergence to S3

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

S2 crenu cluge 75/20N

More massive ASKIN crenu higher up the cliff

S1 foln 70/30N

S3 crenu. cluge 130/40NE
85/65N

1200 S_0 lyring 118/30N
S_1 foln 103/20N

Massive, thick bedded dolomitic qtzite 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 (UDM3)
Platy Askin at this location is on hinge zone of S1 fold lying at a very high angle to S1 fltn

S0 lying 178/86W
S1 fltn 20/20W
Eastern vergence to S1 fold
F.A. orientation 0/13

S1 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 gray 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 this 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 - platy 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 chloritic blotches. Just to east across small gully rocks consist of MVT. Very pyritic metavolcanics interbanded with light colored cherts.
S1 fltn 133/52NE

1203 Mvt.

① Pink chert with thin dark grey bands.

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

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

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

S_1 fltn ≈ S_0 lying 30/255E

1204. S_1 fltn 95/30N

MVt.

Rusty weathering fine-grained metavolcanics silicified with minor black phyllite

Abundant evidence of late plane folding — axial plane cren cluge 105/70N

F.A 100/07

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

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1205. S_1 ≈ S_0 60/405

S_3? cren cluge 85/655

MVt.

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 cluge 105/80N

S_1 fltn 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 S_1 & S_3 flt.

Brownish weathering looks like very flattened lapilli 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

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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 plag-mafic syenite also involved in the fault zone.

1208 $S_0 \approx S_1$ 70/155

S_3? Crenulation cleavage 135/5W 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 fltn.

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, metavolcanics. 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

S_1 flat 90/40S ≈ S_0

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.

$S_1 \approx S_0$ 85/24S

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

Open warp circulation cluge S_3
100/78N
Has south vergence

Crem cluge 135/42NE possible S_2?
West vergence to minor fold - open warping

1211 S_1 flat 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. Fltn 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 phyllite as well.

1213. Good syenite at 5300' on way down.

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

S_1 fltn ≈ S_0 120/25 NE

Minor soft brown weathering volcanics

Just downs lope at 5140' — back into crudely ugly feldspar-rich syenite.

Massive weathering - overall pink color

1214 S_1 fltn 120/60S

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 & recrystallized syenite. In places I could convince myself of an igneous texture - in other places it looked more like a fine grained metachert

August 24, 1980

Chopper hop W side of Seagull Valley

UDM

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

Also have abundant grey phyllite chips in soil.

All is rubble outcrop on ridge. No measurements

ASKIN

1216 Si ftn 55°/10NW

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

Noncalcareous even when powdered

1217 Si ftn 002/15W

Shiny phyllite — very finely interbanded brown weathering carbonate & grey phyllite.

Also has bands of green chloritic 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 bedding visible. So 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 Si ftn 110/30S

Thin rusty siltstone bands present

1220 Pale tan weathering, thin bedded ASKW dolomitic qtzite.
So bedding 160/45E
Also some very thick bedded ASKW — therefore both fissile & more massive variants

1221. Dominant S2 fltn 150/10S
Limy phyllite with green chloritic phyllite. Strong S2 fltn.

1222. S1 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 ASKW Qtzite. Grey when fresh - weathers to brown tan. Noncalcareous even when powdered.
So bedding 160/20W

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

1224. Coarse-grained plag-mafic syenite. Equigranular. Uphill at 5800 feet elevation first encounter fine-grained, medium grey, slightly calcareous metavolcanic. Fit to massive & break with conchoidal fracture — possible dyke. Syenite has small screens of MVT.
As go farther uphill in syenite mafics start to gradually disappear. Left with fine-grained white-weathering rock. Broken & brecciated. Mafics possibly altered to chlorite. Fltn much stronger at bottom of valley
S1? fltn 55/50S

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

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

S, f/to 78/505

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

S, f/to 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, = 100/30S

1231 At 5300' on hillside
Dark green to brown plag + mafics equigranular syenite No readily visible S_1 fltn like 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 fltn. $S_1 \approx 85/57N$
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, recessive weathering
Mafics interstitial to feldspar
Irregular calcite veins & stringers
Minor screens of Mvt
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 flat pavt was equigranular intrusive rock.

S1? flt 58/305

S? (3) crenulation 86/80 N

Have augen rock in chloritic matrix. Looks in this case like matrix has a relict equigranular intrusive texture. It can have large pyrite cubes

MVT shows extremely strong – widely spaced crenulation 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 Crenulation cleavage 90/63 N

S1 flt 92/325

MVT ??

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

On east end looks like finely 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 fluff (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 flts 90/305

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

Strong crenulation cleavage present in this area.

1237 Mvt. Silvery green & brown interbanded phyllite - Metavolcanics

S_1 flts 145/15SW

S_3 crenul. cleavage 100/50N

S vergence to crenulation cleavage

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

Can see flattened fragments

1238 S_1 flts 120/35S

Mvt 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 S_1 flts.

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 dusky pink augen. Augen are remarkably small - up to 1/4" or so. Phyllite shows excellent S, fltn

S, fltn 60/255

Augen weather pink-brown with numerous small holes (weathered out pyrite?)

Size & number makes it look like volcaniclastic in this case

Scattered black phyllite float to continue down ridge

4400' abundant syenite intrusive float

Continuing on West side of ANISE CLAIMS Road geology

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

S0 fltn bedding 65/505

Also some dark gray phyllite

1241 Series of roadcuts of UDM Black shales & lithic wacke interbedded with the lithic & chert pebble conglomerate. Rounded gray & black chert pebbles. Also abundant light felsic lithic fragments and shale ripup clasts within dark gray phyllite and within the lithic wacke. Some lithic clasts look angular rather than rounded. Rare pyritic nodules weather with brown spot

1242 Roadcrop. UDM dark gray phyllite with rusty weathering siltstone layers. Also some coarse lithic wacke

S0 bedding 60/90

Graded bedding in siltstone indicates tops to to the East

S, fltn 90/555

1243 Uphill at 5000'

Limy 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 limy phyllite. Aphanitic – sometimes with brownish phenocrysts. Fresh surface is grey with slight green cast. Weathered surface greenish to brown. Is calcareous – fizzes faily readily with acid. Contains small disseminated pyrite cubes

↓

looks like it could be Mt T type feeder

Contains the S_1 fltn.

1244 Mod. green strongly foliated metavolcanic

Contains coarse biotite

S_1 fltn 115/46N

Strongly chloritic Contains rounded amygdules or phenocrysts which are slightly calcareous. Fit for Vazgonda

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1245 Dark grey phyllite. – 40M

Noncalcareous

S_1 fltn 65/10 NW

Contains thin, rusty-weathering siltstone bands

Aug 26, '80 LCP

Ridge just S of McConnell River

1246 S_1 foln 105/25S

Non calcareous, thinly bedded medium grey phyllite. Thin siltstone bands which weather to a rusty tan because of entrained 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 WDMs

So subparallel S_1

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 gossan. Very dark rusty red-brown weathering. Then into typical ASKIN lithologies.

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

1247. S_0 bedding 82/355

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

1248 ASKIN dolomitic gossan.

Very rusty orange weathering. Extensively fractured e 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 5 ft. metatuff. Fresh color is yellow to tan.

④ Punky-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.

ASKN So 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 folds visible from chopper — this will greatly thicken this section of ASKIN!

Serpentinite contains large pyrite nodules

So/S1 grey phyllite 112/38S

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

$S_0 \approx S_1 = 85/55$

1251 ASKIN Fm So 100/25S

Strat section as grounded up hill from last spot to here

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

15' thin dolomitic qtzite

fossiliferous grey ls crinoids

Just to east. Askin shale 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 interminated with crinoid-bearing limestone

Late Neoproterozoic fold - open
AP 100/505 FA 285/05

1252 So 140/30S

Askin Group

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

Lesser units of dark grey to black locally fossiliferous limestone. Do contain 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

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1253 Descended entirely in Askin Gp

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

Near this point get a few grey weathering layers. Also rusty weathering grey to pale grey phyllite. Phyllite & noncalcareous

This spot marks general transition from grey or lt brown to pale tan & go downslope.

So bedding 155/15 SW

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

6160' - grey gtzite. Thin vertical breccia zones trend 345°

1254. S_0 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 at that column in ASKIN

up ↓ dark grey
pale tan
grey to dark brown

1255. S_0 160/35 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 chalky. Slightly calcareous.

④ Slightly calcareous, dark grey, finely laminated siltstone. Weathers to a dull grey-tan. Excellent thin laminations. Some primary sedimentary structures. These occur in thicknesses up to 5'
NOTE: NOT LIMY PHYLLITE
Either UOM (Mut type) or UOMs with Mut dykes

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

1256. $S_1 \hat{\wedge} S_0$ 30/15 NW

Interbanded calcareous phyllite + brown-weathering carbonate.
Definite limy phyllite — Vangorda

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

altitude 5560'

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

To west – have dark grey phyllite with dark green equigranular 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 deformation

Cremulation elvge 75/30N

S_1 is nearly vertical as microlithons

S_2 trending 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 cremu. elvge very strong 65/35N

S vergence to S_2 minor folds

F.A. of cremulation 280/20

S_1 just slightly S 175/40W

1262. Contact of lowermost ASKIN with underlying unit.

Platy ASKIN just above this unit

Thinly interbanded black to dk gray orthaquite and gray dolomitic sandstone.

Numerous fractures filled by qtz.

Layer thickness from 1/4 inch 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

S$_0$ 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

1264 S2 crenulation cleavage

has S vergence

AP 45/10 NW FA 300/05

Strong S2 in this region

Typical Vasquez silvery phyllite

Also some dolomitic siltstone — again thinly laminated.

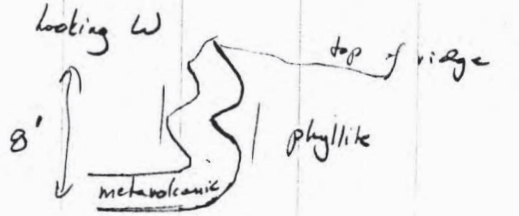
Interlayered with pale green metavolcanics. Metavolcanics are slightly calcareous locally. Have granular phyllite with large disseminated pyrite cubes, Very phyllitic, pale green — thinly banded chloritic phyllite — probably meta tuffs. Also some volcaniclastics with very flattened, elongate fragments.

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

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

Extremely strong S2 deformation here. Forms dominant fabric. Bedding ≈ Vertical at this point

S2 FA 280/15 AP 25/20W



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 rotate sections 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 55/25NW FA 270/10

1267. Top of hill UOM$_5$ with some green metavolcanic.

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

Contact with EO marked by zone of abundant breccia and slickensides – no good outcrop – may be on one piece of ASKIN. Lying phyllite dips to east for a very short interval.

Suggest that this is not a thrust plate – UOM does not really sit below the lying phyllite. Rather it is a steep fault with east side down – just to passing

lying 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 Mut.

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

So lying 100/35S

So ≈ S$_1$ 165/30W *

S2 crenulage 60/30NW

1268 UOM$_5$ with just very minor sort of Mut 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 in cirque.

So lying 165/40W ASKIN

S$_1$ (UOM) 70/10S

Uppermost ASKIN is tan to brown weathering dolomitic shale.

Lowermost UOM 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 (UOM)

S_2 crenulage 65/60 NW

L2 S_2 on S_1 262/35

1269. Thick bedded light tan weathering dolomitic shale.

S_0 lying 155/30 SW

1270. S_0 lying 165/25W

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

Here small porphyritic dyke at this location. White feldspar phenocrysts in a grey green matrix. Foliated, slightly calcareous

Aug 27, '80 LCP

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? flat 105/75S

1273. Syenite. Dominantly K-feldspar with minor interstitial pyrite + mafics (chlorite?). Massive rubble + outcrop. Looks unfoliated. Small screens of lapilli tuff present. Trace of bluish 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 - place for a fault to go through.

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

Small areas 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. Need 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 lens of darker grey metachert interbanded with the white pyrite-spotted material.

S_0 banding 135/60 NE

Slightly further N 110/45 N

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

1279 Metacherts of grey & 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 lying slightly

S_0 lying 170/15 E

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

Cren. cluge 130/73 NE

1280 110M 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 down hill movement these form lenses + streaks down the slope.

S_1 flat 110/40 S

S_2 cren. cluge 105/60 N

Lin. cren on S_1 275/02

1281 S_0 112/10N

S_1 foln 80/15S

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"-1".

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.

S_0 layering 20/15E

S_1 foln 40/25SE

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. S_0 bedding 145/15NE

S_1 foln 35°/35E

UOMs Siliceous gray & pale olive green banded phyllites. Contains thin siltstone bands. Pyritic nodules elongate in S_0 weather with distinctive yellow & orange colors

1284. UOMs

Grey & green thinly banded phyllite with siltstone and sandstone layers

S_0 bedding 150/10NE

S_1 foln 005/20E

1285. S_0 layering 175/15E UOMs

S_1 foln 85/40S

S_2 crenulation cleavage 130/60NE

Dark grey siltstone/phyllite with light sandstone layers

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

Green looks massive - no ftbn taken

1287. So bedding 15/20E
S1 ftbn 80/155
S2 crenulation 125/70SE

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 (#1290) to here dominantly poorly fissile grey to dark grey limestone Here have interbanded some limestone with massive pale pink-tan weathering dolomite Limestone fossiliferous with corals and brachiopods In one outcrop here recorded clasts of dolomitic grit in the grey limestone. Dolomite are thick to thin bedded

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

So 140/25 SE

Ls & dolomite contain thin sticky 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 lyring 100/30S

Ridge top to N is light grey orthogneiss.

1290 Definite fault zone within ASKIN GRP

Came along ridge on interlayered gneiss (grey ortho) and tan weathering dolomite. To come 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

1296 Closely spaced fractures 10/85E

So lyring — horizontal

S, filtn — 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 as the units to west. Does not look like UORM 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, flts 150/40 SE ??

So comp lying 135/70S

As go N- in 100 ft of the 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 metavolcanics.

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

Rocks have extremely strong crenulation cleavage.

S$_1$/So 75/355

Cren. clvge 70/50N

lin cren on S$_1$ = 70/000

Metavolcanic either volcaniclastic or has flattened white phenocrysts

Straight uphill at 5800' Lowermost ASKIN is dark laminated grit. Weathers to a dull brown grey. Laminations not extremely well formed. Laminae are of the 1216.

Therefore black phyllite here is only perhaps 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 grit. (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 - but not got 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 limy phyllite float.

At 360' outcrop of black phyllite with the resp 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 MVT

Volcanics look very similar to dyke rock in ASKIN north outlier 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. Weathers to bright orange. Both white and green (pale chlorite) euhedral phenocrysts.

1295 S cren. cleave 80/55N

Vangorda limy phyllite.

Extremely intense crenulation cleave

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

Ridge just E of ANISE

1296 Dull 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.

1297 Would your 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 xyloes.

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 don bedding 145/55 NE

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

Aug 26th cont'd

1300 & rusty weath. non-calc carbonaceous phyllites and phyllitic siltstones

S2 weld dev. cren @ 118/21 N

F2 tight axes || minor Z folds @ 118/00 ex

WDM

1301 red-grained, dk green, sl. chloritized, sl pyritic, sl calcareous, locally sl fabricated lithic bearing mafic igneous rock. Occurs as float boulders only in talus slope of Askin boulders. Is either occurring as dykes w/in the Askin or (possibly) as boulders from metabasite (see Lookout Askin (unlikely)

1302 med to dk grey bedded calcareous phyllites

bedding (folding = S0) @ 042/055 E ex

second foliation @ 052/32 SE good

(maybe S1 → no cren ass. w/it)

R. D. RENDALL LTD. MATLIN B.C. DUKSPEAK WATERHOOF

1303 Massive buff weath dolamite w/ bands & narrow qtz + veins.
SDd

Aug 29

Start traverse at Ridge w/ 1st Aussie DDH — Sunny Broken bed under clay

1304 Tan weath med grey fine grained dolamite. Massive, w/ abundant qtz veining

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

More Atkin fmem line 112 S 39 W to 41 W

1305 sl. rotated blocks of massive dol., coal dolm sandstone

1306 o/c of med grey brn weath lightly deformed pale to dk grey qtzites w/ v. carbonaceous phyllitic partings — similar to that seen @ base of Atkin thrust plate NE of Sedgwick Lk.

pervasive S_2 (?) @ 065/32 N W (poorly dev. cleav.) (good

Note ⊿ 1306 is 100' N of L112 37 W

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

dk green

1307 sheared ^ meta basites — dk green locally w/ dolom or calcsilic chambs present in ~~green~~ beds to 0.3 m wide. All in sl. rotated blocks. Locally sl. pyrite, locally has med grained plag. present

1308 strongly sheared pale grey/brn to dk grey siltstone ± sl carbonaceous qtzites as in Δ 1306

foliation @ 065/17 NW cx (S?)

- thin qtzites underlie Δ 1307

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

1309 on line 112 S @ 35 W

large O/c of massive to med. bedded locally moderately carbonaceous f. grained quartzites.

Bedding @ 040/37 NW good

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Ridge E of Axe Aug 29th (cont'd)

near big magnetometer

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

Strongly deformed by F2

S2 axial cleavage @ 135/31 NE ca

L2 (lithons and mineral flds w/ Z maxima) @ 135/00 ca

Overall S0/S2 orientation @ 140/40 SW (tops)

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

1311 pale grey weath f grained quartzite w/ streaky beds of dkr grey qtzite All in sl rotated blocks. This unit is identical to that at the base of the Axe Thrust panel NE of Serpent Lake Access w/ pale green sl calc. metabasalt w/ rs pyrite cubes.

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/ narrow (< 2 m) felsic tuff inter-beds
Pale siltstone bands show X bedding
So @ 166/35 NE ex
S2 (prob - although could be crenulation)
@ bottom of hill (good)

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

- silty (pale grey) bands are sl. rusty weath.
- rock also locally contains coarse limonite spots or 'knots' - often small pyrite nodules?

1314 dk grey bedded siltstones as above in S/C. Also local concentrations of angular to sparsely rounded syenite boulders - probably from dykes and/or sills.

hoppe hopping
headwaters of McConnell

Aug 30th

1315 massive to gn. of pyroxene syenite - ridge is capped by massive rusty brn weath

1316 v. rusty weath hornfelsed (probably) black phyllites with layers of v. pyritic felsic tuffs.

So @ 039/03 SE

1317 pale to med grey locally rusty weath chert, pyritic chert and tuffaceous chert. Thinly laminated

So @ 170/23 E ex

- locally is v. pale bleached grey weath - w/ narrow felsic tuff beds to 1 cm

1318 rusty weath pyritic felsic tuff and lapilli tuff

S1 @ 103/38 S ex

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1319 pale grey, delwery to orangy tan weath thinly phyllitic and phyllitic calcstones

So @ 118/38/N
S1 @ 118/28 N ax
L2 (crenulation) @ 097/00 good

1320 pale tan to orange tan weath tan to pale grey ~~chert~~ f grained qtzite (much of it calcareous chert). Badly broken — approx. a shatter Xca - w/ carbonate stringers - Thinly bedded prior to shattering overall bedding @ 068/035E good

Looks like Mt.

~100 m to E of ↑ is dk grey thinly phyllite.

S1/S0 @ 062/13NW

steep fault contact between these two

1321 highly shattered rusty MnO tuffs w/ carb phyllite partings

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 bedded pale to med grey qtz-wkly f grained probably Ash

1324 strongly jointed ~~tan~~ non foliated intrusive (check comps) w/ narrow screens of res. grained marble and dk grey qtzite or hornfelsed carbonaceous phyllite

1325 pale to lt green siltstones highly ~~pyritic~~ magnetiferous locally highly pyritic metavolcanics — poss related to the UMF units but not sure

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1326 thinly bedded ± calcareous fg/gr qtzites, carb phyllites and grey weath red grey marbles
– Peck Road Pluton

so // S_1 @ 045/17 SE ex

1327 resume white weath cream colored calcareous qtzite

Astin

gas break

1328 chloritic, highly calcareous meta volc, possibly UMF (augen) in contact to E w/ f gr. tan weath ~~E~~ syenite

1329 pale silvery grey to tan weath rare red grey limy phyllite w/ narrow ~~dk~~ red/grey qtzite interbeds

S_2 @ 110/17 N ex
S_0/S_1 highly merged.

1330 Massive to thick bedded pale grey to orange tan weath dolomitic fg qtzites, and dolomite.

Astin
Belling @ 143/64 NE ex

1331 interbedded dk grey tan to pl calcareous phyllite and highly calcareous pale to red qtzite ~~meta~~ metavolcanic w/ ferroan carb. – probably MEOSIV rhombs

well ~~folded~~ folded (S_2) @ 110/68 SE ex

1332 red grey to rusty orange weath limy phyllite ~~dk~~ highly ~~dk~~ calcareous phyllitic siltstone

S_1 cont elsewhere well defined @ 125/22 NE ex

S_0 ? S_1 highly merged by F_2

1333 interbedded limy phyllite and calcareous pale grey to grey green qtzite.

limy phyllite transition to OSiv

No time for structure

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u. sheared Mst lapilli tuffs –
d rusty weath (spotted)

– no time for structures

1335 Thinly bedded fn-grn gtzites.
Neg-te sl calcareous, non-dolomitic
Pale grey weath
Bedding @ 20/85 NE-ex

1336 massive sl pyritic pale grey to grey-green weath med. grained sandstone. Blocky weath. Some relict foliation and current ripples/laminations, but is pervasively fabriced.

1337 lt grey/brown, flaggy weath gtzites w/ irregular pulcareous partings
strike @ 155/72 SW good

1338 Flaggy med grey gtzites.
N.M. calcareous

no time for measurements

1339 rusty fn to Pink-tinged med grey weath - phyllitic marbles and u. calc. phyllitic siltstones, interbedded w/ pale green pyritic metavolcanics

no structures – no time

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

Bedding @ 075/56 NW ex

UDMs ?? (wayfac)

1341 Afsm massive dolomitic gtzsstn overlain by thinly foliated locally d rusty weath black phyllites → UDMs

phyllites are thinly laminated pale and lt grey – pale bands rusty weath
So/S1 in phyllites @ 082/17 S ex

1342 phyllitic silvery grey to rusty fn weath phyllitic thinbanded marbles

limy phyllite variant

overall So/S1 @ 152/09 NE ex
S2 @ 096/43 N ex
2 generations minor Fi folds L2 @ 098/10 E

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

Bedding @ 032/30

1344 cs grained calcareous dk grey green meta-intrusive

check mineralogy

1345 dk grey sl rusty weath f grained qtzite, locally w/ narrow cream to pale grey siltstone interbeds

probably uSM rather than Astin

So @ 013/12 E ex

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Clear windy

Aug 31/80

1346 interbedded rusty weath f grained felsic tuff and dk grey siltstone

1347 doubly plunging sl rusty weath slightly calcareous qtzite pale grey green felsic tuff and lapilli tuff

plunges @ 110/50 S
and 73/31 S

1348 pale grey sl purplish brown mottled fine grained sugarite. Massive and blocky weathering. Sl. epidotized Sugarite may be either a small plug or a thick flow. Two highly pyritic felsic rusty weath zones cross the sugarite - approx vertical These are either mineralized shear zones or highly altered dykes - not felsic tuffs.

1349 upper contact of sugarite. Overlain by brown to rusty fg weath MAT tuffs and lapilli tuffs. Astin

1350 Mat rusty weath calcareous lapilli tuffs as above

Bedding (ripple laminations) @ 050/15 SE

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

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

1352 calcareous mvt tuffs and lapilli tuffs. Suits as a capper to the dyke

Bedding @ 078/35 SE ex

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

this rock doesn't look like dyke but is continuous in o/c with it

1354 fine grained pale green metavolcanic. Massive, blocky weath. Continuous in o/c w/ the dykelets & previous station. Appears to be a chloritized felsic volc.

1355 pale grey-brn porphyritic fg aphanitic pyroclastic. Massive, non-foliated. Blocky weath. Phenos are all elongate ~ Kspars

1356 rusty orange weath of pyroclastic felsic Kspar porphyry as above locally w/ relict foliation

1357 pyroclastic felsic porphyry as above - non foliated

1358 sheared & rusty weath w/ clearance ~~felsic~~ pale brown lapilli tuff.

S 115, @ 078/64 SE ex

1359 ~~fg~~ coarse grained rhyolite dyke with aphanitic selvages. 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 ~~tuff~~ mudflow deposits

S 011 S, @ 092/29 S ex

R D PENHALL LTD MADE IN B C DUKSBAK WATERPROOF

1362 fine grained porphyritic agglomerate similar to 1356

Appears to be a large dyke.

1363 v. sl brownish weath lapilli tuff

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

Sample

Ridge W of Sargent Lake Sept 1/90

1365 Lt grey phyllite in Sk. Rotated blocks
Phyllite is med to dk grey w/ abundant ferroan carbonate lenses.

1366 massive Actin dolin gtzite
over lain by O/K lay of granule chert pebble cglm w/ pale to dk grey & recrystallized chert frags.

UDM cglm strongly foliated @ 096/36S ea

1367 fine to med. grained dk grey chert granule cgst
well foliated @ 053/62 SE ex
Bedding not visible

R D PENHALL LTD MADE IN BC DUKSBAK WATERPROOF

Sept 2/80

Inverness

1368 stained fine-to-m.gr. granodiorite
w/ 2-3% mafics - mm mafics in gr.gr. granite

foliation @ 018/8E ex (S1)

1369 massive m.gr. granodiorite
w/ ~2% mafics (chlor.-hbl.)

1370 massive m.gr. red-grey granite w/ ~1-5% mafics

1371 thinly bedded rusty blk phyllite & blk phyllitic qtzite uBM
So/S1 @ 025/34 NW ex

underlain by massive f.gr. sl. rusty lt grey/qtzite → could be SB Acm. uBM prob. D

1372 thinly bedded sl. dolomitic pale tan weath. f.gr. qtzite

Bedding @ 142/19 SW ex

1373 mafic dyke (non-foliated) cutting stained syenite

1374 massive m.gr. granite w/ minor fine qtz veins (?)
intrudes massive pink weathering dk grey weath. f.-m.gr. foliated granite w/ bedding @ 10/285 ex

1375 med. to thick bedded dolomitic sandstone. Fine grained, brittle tan weath. med. to dk grey fresh. Rounded qtz-carb. veining
Bedding @ @ 164/18W ex

1376 thin bedded sl. rusty tan to pale green weath. tuffs and tuff. cherts
So/S1 @ 018/13 W ex
fold axes @ 288/14 ex
ax. pl. dvg. / parallel lineation @ 115/56S ex
→ 2 orig. minor folds

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

1377 massive white to pale green sl. dolomitic qtz sstn

1378 as above, sl. banded

1379 as above

1380 fine to med bedded cream to sl. rusty fn weath felsic tuffs

Bdding @ 131/26 SW ~~ex~~

sl. disturbed by boudinage pyrite red grey sill ~1 m thick

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

1382 cream to pale green muscovitic fine to med grained marble massive in b/c

1383 highly calcareous pale green to sl. rusty fn weath qtzite (?)

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

1385 banded dk grey to black siliceous phyllites

overall So/S1 @ 115/56S good

v. strongly dev cren lin @ 005/10E good

~~cr. undulose visible axes of~~ no fine !!

1386 thinly striped black and white gtzite.

f. grained

1387 v. fine grained siliceous banded. Spotted green.

1388 massive. as grained sgmts.

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

Sep A 3/30

1389 fine-grained sl pyritic volcanic Mod grey-green fesl, w/ orange carbonate? grains, gives a spotted appearance Massive m- bedded, blocky weath. Presumably Cbs Hagen (post Dfm) dyke

1390 thin to thick bedded fn to pale grey weath sl. dolomitic qtz ss/s Fine grained

Bedding @ 010/20 W ex

1391 massive to thick bedded cream to pinkish grey fine-grained siliceous tuff

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

1392 thick to thin bedded massive weathy sl dolomitic qtzite fn to pale grey weath pale to med grey on fresh surfaces
Bedding @ 013/12 W ex

overlies (apparently conformably — contact is subtle zoned) fissile to med grey weath limy phyllite and v. calcareous phyllite med grey pelitic limy phyllite to med grey to rusty grey weath, highly calcareous, thinly bedded
Banding (So/Ss) @ 075/15 NW ex

well dev mior folds w/ cremulation cleav locally well dev @ 131/31 NE
Sverg of mior folds

fold axes @ 312/08

1393 limy phyllite — float must be just below contact w/ overlying Pskm

1394 massive dk grey to buff weath dolomitic w/ qtz veinlets
SLA

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

1335	sl. rusty mudst, sl. tornad, calcareous thinly bedded, dk. grey to black, phyllite. Abundant qtz lenses // S_0/S_1 S_0/S_1 @ 012/09 W ea			

WDH.

320 LX Pacific Rainpool

1400. Syenite ??

If not a fault - this would be a good location. Massive, fine-grained pyritic syenite. Intensely sheared. locally developed greenish micas (serpentinite ?)

S, fltn 85/205

Cren. Cluge 90/vertical.

Have been on syenite since last station (# 1299). Dark green dyke or wall accompanies shows extensive boudinage - general offset to South

1401. Highly sheared, pinkish weathering syenite. Dominantly feldspar (no mafics) with abundant disseminated pyrite. locally shearing gives S, fltn surface the appearance of volcaniclastics with chile 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

320 LX Pacific Rainpool

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 MVT or sheared syenite Right now it looks more like MVT or Mt — pale cream tuffaceous chert.

S, fltn 120/35 SW

1403 Same pale green Mt unit Color-Banded with darker grey layers. Soft enough to be scratched with hammer.

So lyring 20/20E

S, fltn 85/06 S

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 UDMs –

Extremely strong crenulation cluge in this area.

S_3 crenn cluge 115/60 N

S_ϕ cluge 75/35 S

August 31, 1980

North of McConnell River

1405 Dark grey to black hornfelsed UDM phyllite. Contains green (pale green) slightly calcareous, pyritic dykes. Also has very dark grey to black limestone. Weathers overall to a very mucky brown. (May be RK)

So lying 30/10E

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

So lying 125/15SE

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.

1406 So ASKIN 160/45 NE, 175/30 E

At 5800' elevation —

basal pooling to well laminated grey ASKIN strike. In places develops a calc-silicate appearance with limy phyllite type ground white banding / definitely ASKIN. Would now suggest that perhaps #1405 really was no ASKIN with minor interleaving of other rock types

Underlain by ultramafic Both fine-grained greenstone 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 band (UOM?)

Thenfore 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 units of large pyrite cubes — then 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 55/10 SE

(Check — contact may jump up right at this spot) — No False alarm !

Very bottom ASKIN has a pale pale greenish tint

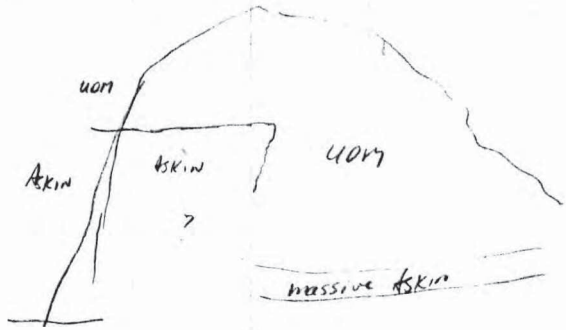
1409 Basal ASKIN Poorly laminated gtsite Above have rusty weathering gtsite of ASKIN Have ultramafic assemblages off to east at just about this level

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 40/15S
Go uphill into dark grey & black phyllites

1411. UOM: black phyllite with thin siltstone bands
So lying 90/10N
(may be slumped)

1412. Looking at NE face of cirque facing N just E of thin 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 pass/draw is. — That may be the one spot the Askin is not continuous.

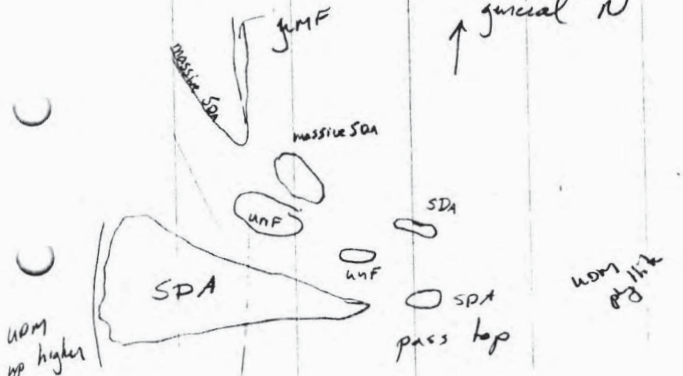
So UDM 125/40NE

Sl f/w UDM 30/15 E

Also must put step fault through this draw because juxtapose UDM (E) against Askin (W)

Askin exposed on center of draw right next to UDM (east) is a dolomitic sandstone breccia. Subangular clasts of different sizes — randomly oriented — so dipping 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 steep to E

Altimeter indicates 6660' feet elevation for UDM contact on west side

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

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

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

1415. So lying 140/20SW
thinly bedded slightly calcareous pyllite
Thin beds are pale green weather down (—
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 Akie dolomite at 5100'
Limy phyllite just uphill at 5140'
S_1 (flattened) 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 ? contain biotite, pyrite, dk green mafics, feldspar
Also pale green / grey phyllite — possible metatuffs

1419 Pale green metachert & metatuffs
Overall cherty appearance. Calcite in fractures
S_0 layering 170/80E
Flinty appearance. Yield some tongues scratch with hammer Tuffaceous cherts

1420. S_1 foln 85/60S
Pale green micaceous phyllites + more massive metavolcanics. Metavolcanics like at stop # 1418. — noncalcareous

Micaceous pale green phyllite look like tuffaceous cherts when freshly broken. On weathered surfaces they have a very distinctive, fine S_1 flow. 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 ls interbeds.

1421. Thinly banded marble. bgring 110/65S.

Recrystallized. Medium grey. Thinly yet regularly laminated.

1422 Coarse-grained ultramafic. Primary igneous texture.

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

~~Cren. cleavage almost horizontal~~

1424. S_1 flow 110/70S

S_2 crenulage 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.

Ridge W of Seagull Lakes

1426. Straight uphill from # 1391 at 5620' elevation

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

S, flat 25/40E

S, surface shows dark chloritic mottling

F.S 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

1427 ATKIN GP

Major of roadcut consists of noncalcareous sandstone with abundant silvery grey phyllitic partings. Phyllitic partings are most arresting — minor banding of phyllitic sandy layers. Each band ~ 1-2 mm thick.

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

Outcrop also contains thin bands of dolomitic sandstone these contain minor, paper thin grey phyllitic partings.

$S_1 \approx S_0$ 135/15S

Weak crenulation cleavage 160/35E

Lin cleavage on S_1 145/15

Later strong warps which deform earlier structures

AP 110/45°N FA 115/000

South vergence

Sept 7, 1980 ACP

Hop on East side of ANISE VALLEY

1428 S, ftn 20/15W

Noncalcareous, slightly carbonaceous biotitic phyllite Qtz-rich interbands

Not limy phyllite type

Interbanded biotitic phyllite (pyrolistic) and green calc-silicate. Now like a metamorphosed limy phyllite - again. It is noncalcareous

Weathers to rusty orange because of included pyrite

Also coarse-grained pinkish or sugary-pale grey - very orange weathering - probable syenite.

1429 Dark grey, noncalcareous phyllite

Pyritic with brown-weathering spots

UDM

S, ftn 100/05N

Qtz sweats present

1430 ASKIN

Grey thick bedded dolomite

Contains minor disseminated pyrite

So lying (?) 115/10S

1431. S, ftn 40/15SE

Silvery grey, slightly carbonaceous, noncalcareous phyllite. Not typical UDM, not typical Vangorda

Contains opaque white quartz sweats

1432 S, ftn 90/20S = So

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

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

1433 S_1 foln 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, non-calcareous quartzite. No really 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 S_0 lying 160/70 W

Grey & brown interbanded calc-silicate looks like Wolverine fauna

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1436 S_0 20/45 E ≈ S_1

S crenulation 140/45 NE

Dark grey phyllitic laminated quartzite.

looks like basal ASKIN seen on road between Sayaell and the ~~Iron~~ Silver Arrow Mine

locally extremely phyllitic – other places more like a calcareous grit

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1437. S_1 165/55 E

light green chloritic phyllite & dk green serpentinite. Mtl 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

1439 Si fltn 50/10S

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

1440 Si fltn 005/20W

Very similar to last step. 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 faily recent UDM

1443 Grey dolomite Weathers to dk grey to brown with reddish tint Abundant worm burrows weather on 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