

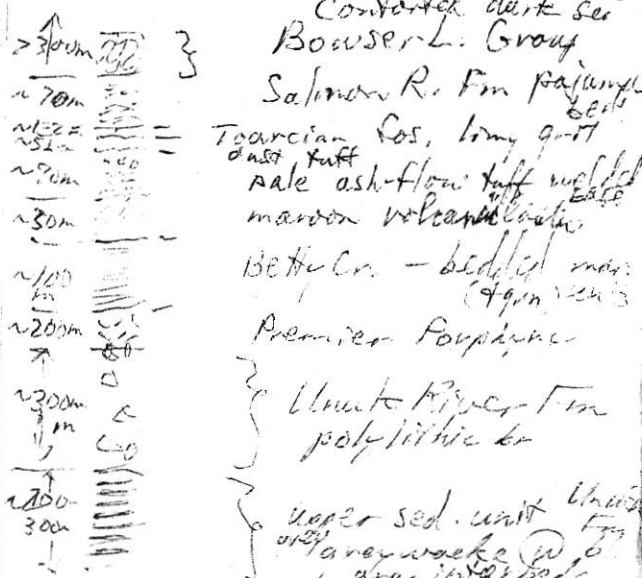
1994
Book 2

1

Date	Site No.	Spec. No.	Location	Notes
July 26 1991	-	40-91	Ashman Ridge, B.C.	1-3
July 27	-	37-40	Glacier Gulch old #12 B.C.	4-5 shows
28	-	-	" " " "	6-8 poor
30	-	41-44	Red Mountain, B.C.	9-10
31	-	45-47	Premier Mine, B.C.	11-12 r
Aug 1	-	48-50	Mount Diabolo, B.C.	13-14
4	694	51-54	North of Sulphurets Lake	17-20
5	3-5	53-58	Streams W. of Hanging Gl.	23-24
6	6	59-62	High Ridge N. Upper Mitchell Gl.	30-33 for
7	7-9	63-64	Upper Treaty Gl. SE	35-36 findings
8	-	65-67	West, Fraser & Bieberte	37-39 not
10	10-11	68-70	North of Shore Zone	40-44 for
11	12	71-73	Head Mitchell & Kniggle Icefield	45-46 to 50
12	13-14	73-77	South Treaty Glacier, B.C.	47-52

edge
ry
cas.00561
1-10

- in good exposures
can see that units
are contorted & folded



Sketched Section N.E.

- i) Summary
- 1) Will be difficult to determine contacts between formations
- 2) Bob wants ^{top of} Sal. R. Fm to be "uppermost pajana beds"
- 3) ^{all} volcanoclastic rocks including mazon unit
- 4) Betty Creek only volcanic ash & rhyolite
- 5) Questions if Premier porphyry is extrusive
- 6) Uink R. Fm

North of Sulphurets Lake 17

Sun, cloud, Sun. Aug. 4/91

- Camp elev. 1380m
- ("mine elev.") (true elev 1390m)
- Start nr. K.C. 90-113E
- ~60-70m E of Grandue ditch 68-3 at new survey peg #81 - 1530m alt. py 9m grey zone (u) at 113E
- ~60-70m S down slope 10-40N 10400E
- vast alt gran-green monz. (u)
- ~1/10 cp & 1/10 py
- KO-91-51A
- Typical of best grade in area of extensive sampling by Carolina 1497m

quite good (ca 203%
203%)

- changed direction to SE
(@ same elev to 1st
linear creek

- into net. barren
chlt. & epid. pl. th
porph. & apd, & monz
porph. dykes? (u)
only minor py
for ~80-90m

- no plc in
stream until
browe of hill
~70-80m S
pyritic alt. ser.
fractured monz?
E of stream
KQ-91-51B

& sheared + foliated
mylonitic siltst. chl.
pyritic rocks W
of str. S1C

- minor malachite 18

- 225°/72° (NW) mylonitic
fol. fair to good

283°/55° poor
on poor crenulation
lineation down foliation
plane

- fault is probably
mainly in intruding
alt. rocks + is
somewhat ductile

- numerous pyritic
(1-3cm veins) float
boulders + some vein
(20-30cm) qz boulders

- ~60-70m SSW to top
of waterfall (1375m)

- pyritic alt. qtz.
and. (dyke?) & pl-
hb porph.

- near top of section
more py E of
stream but (a)
top of waterfall
also ~ 10% py W
of str.

- local heavy maln
but could be float boulders

QRI-1 - 1345m

- junction 2 str

- near base of

waterfall in mud

- highly fractured

qzn pl-hb porph. @ mine

py (10%)

KQ-91-51D

- poor o/c - could be
pl-hb bodies in breccia

- small a/c's of same
material for ~ 30-40m

downstr. - one 19
1.5m o/c ~ 20% py
in sericitic alt.
zone cutting ch.
rocks

- ~ 30m to bench
(no o/c)

- ~ 20-30m. similar
small o/c's

~ 30m. sim. sl. w. to
S trend

- 1278m in conifers

top of waterfall

KQ-91-52A

sheared, ser. pt

with alt. rk

~ 10m down waterfall
188°/68° (W)

fair on schistosity

- some brown (Fe)
weathering carbonates

- some highly
deformed flattened
(4 bar?) veins (w pi
check heavy) cp + grey min.
(terr? ec?)
KQ-91-52B

(rock looks interesting
for Cu + Au but
can't est. Cu grade
because of poor o/c
& strong schistosity)

for ~ 50m downstr
(SW)

rel. barren dark
grn f.g. hb. porph

KQ-91-52C

largely post min. but

some sl. py areas

- some pyrit pl-hb zone

- ~ 30m W to NS str.

20

1222m 175°/80° (W)
good on well-developed
schistosity in crest
in pale grey
sericitic schist (low
py) 52D

- ~ 10m downstr
ser. sl. py at
graphitic schist
~ 20m S

1210m 0°/50° fair
on possible
bedding

- downstr. ser. chl
py schist of
questionable protolith
(sed or R-hb porph)

① R1-2-1200m
- stream-junction

228°/70° fair

on schistosity

but sl. contorted
- poss. steep & flat linear

- ser - chl. schist

(w. diss. py + cp
(0.2% Cu?))

KQ-91-52E

- str. becomes steep

~ 20-30m V. SW

212°/62° (W) fair

on very strong

schistosity - possibly
ductile fault?? ser-chl. sch.

~ 304m V S - 1150m -

~ 1/2 way? to
waterfall

intensely abt 21
93 - ser - py (>15%)
schist
KQ-91-52F

- reaching the limit
of rock that I
can carry

- low sulph. pl-hb porph
sulphate? veins minor cp
~ 50m V ~ 20m V before
waterfall

52G - 93 ser chl
py (cp?) schist
after pl-hb porph.?

~ 1/2 way down waterfall
in cliffs to W

KQ-91-52H

- med grn chl ser
py (~1% f.g.) pl-hb
porph. (w minor f.g.
diss. cp (~0.1% Cu?))

- cover across hillside to next str. W
- 1030m below break in slope ~ 60-70m? N of str.
- ~100-150m SW to next spec.
cover passed 2 main alder slopes
- in small str. get
- 1005m
- 345°/470°(W), v. pos. on poss. bedding in v. small o/c in str. interbedded ser. py grey S.S. + bl. arg. @ ~ 2-3% py & tr. cgl??
KQ-91-53A
- cover ~ 80-90m W top of slope small bench.

- + knob in red. 22 open trees
- 1015m
- ~100m contouring W 985m @ alder slide cover
- can see high cliffs ~ 600m NW
- crossed alder slide & stream & went ~300m SSE down & across gentle uniform wooded slope @ no o/c to ~~at~~ down swamp 900m (@ W trending str)
- went SW around knob to S (to avoid cliffs

cover from ~100m

- small N dipping
830m (300??)
sed. o/c
KU-91-54A

steep wooded slope
small sed o/c
near top of
c/den

620m pale py
54B sed

Sulph. Cr. ~555m
~250m W of waste
bluffs
- opposite slide Cr is 551m
- camp 1360m

Summary

23

- 1) low-grade (~0.005 to 0.3% Cu)
Cu in upper $\frac{1}{3}$ of traverse
in upper plate (grn. chl rocks
(pl-hb porph. + ? other rkt types))
- locally some good (0.5% Cu)
cp & heavy malachite
- 2) locally (0.5 to 4.0m ?? intervals)
some very intensely altered
pale sericitic py (5-20%)
altered rocks - Bimiliran
rocks, ^{near dth above} according to John
Bellamy contain Au)
- 3) above waterfall in "tight"
streamc possibly > intrusive
rocks than typical - in
small poor o/c's sed. rts
might be resistant
- 4) not much o/c on gentle
slopes (some steep slopes)
but some areas might be
good for roads
- 5) dark sed in lowest o/c's
but probably in middle plate
~ lower plate should be highly alt.

West of Hanging
Glacier - Slope N.
of Sulphurets Gl.

Sun & fog Mon. Aug. 5/91
camp 1380m

① R1-3 - 1918m

- high point on ridge @ 5 claim posts (Kerr 5, 6) D. W. J. Sta Nov 21/82) & rock cairn
- no old cairn 70m E?
- pale py (4-5% evenly diss.) pl. phyni? altered ser. rel. mas. andesite? - some definite ser. py pl. phyni poly lithic and. loc. & rks too high alt. sed. to be certain of protolite
- 70-80m W on ridge
- 262°/78° (W) Fair on poorly dev. schists (clv.)

- ~50m W on ridge 24 claim post - no tag
- chl ser and br.
- ~50m W to knob on ridge before drops down to W chl and br
- ~50 SE top of slope chl and br. & another unmarked post
- no sign of Big Shaving cairn but in fog (might be sl. east of search area?)
- SE downhill to snow chlonitic and br (4-10% py)
- humerus 1-5cm gashings cal barite veins (tectonic) in rubble of & blocks

- any sulphate leached
 18/0m - near base of
 1st snow patch
 - no good o/c below
 snow so west ~
 80-90m W to o/c
 in talus & grass
 1780m KQ-91-55A alt
 typical chl. and
 br. @ ~1-2% py

- same chl. py (chl.)
 and br. down
 slope to S

~ 80m S 1735m
 ~ 10+ m wide ser. zone
 25.2°/75°(N) fair
 on schistosity in
 ser (qz?) py (diss.) schist
 KQ-91-55B

- no obvious qz veins
 - similar zones in Big L
 @ qz veins would contain Au?
 - ser py zone trends steeply
 NS

- down slope S 25
 mixed less chl. & alt
 gr. chl py (~1-2%) and
 br. & ser. py schist
 @ ~4-5% diss. py
 - > chl. than ser py
 rk but ser py rk
 increasing % downhill

1638m just below snow in
 creek

280°/64°(N)
 fair on schistosity
 (chl.)

- ser. py schists
 KQ-91-55C

- 30m wide ser.
 py zone (can't
 tell original rk type)
 - could be fault in str?

- ~20m V S

286°/40°(N)
 v. poor on possible
 bedding in ser py alt

- upper area could
be alt arenaceous
seds but ??

- same py ser
alt rock down
str. - both sides
(on fast some limy conc.
holes)
- ~100m to top

1508m. of snow patch
KQ-91-55D
(- good sample - 3 places
5-10m apart)
- same py ser
material @ ~4-5%
diss. py & very minor
hairline fractur

- contoured east (to
change streams)
- same ser. py (4ch)
alt. nt. ~2-3m
alt pl-ho porph. dyke?

1487m - base of cliffs
in conifers
KQ-91-56A

chl py (1-2%) 26
alt and. ??

- also some ser. serix

- py ser alt
1 rock to ESE
- could be sed. but
so highly fractured
difficult to tell

- 1412m junction
2 str. - top trees NE

KQ-91-56B

- same py alt. highly
fractured nt. (sed.??)
- also some leached
out pyrite veins in
area

- rocks less alt. down
str. - dense gran. gran.
py nk - some mus.
o/c KQ-91-57A
~ 1/2 way to str.
- some not. 4h porph.

- possible fault fault in land.

275° / 49° N

poor or v. poor bedding (+ cl.)

bl. arg. & grey siltst. slaty cl. in arg units

KQ-91-57B

OK 1-4-1275m

- junction 2 streams
- o/c's highly fract.
- to W slate o/c's of dark sed.
- same dark sed. as at waterfall to W (can see bench across hillside)

- then went E up hill to next str. towards moraine beside Hanging Gl. o/c

1299m

- 70m E S of lin 27

- ~10m o/c it heather highly alt. pale ser. py (~5%) & K

KQ-91-58A

- therefore probably a fault up lin.

- 1 more 3m o/c same

- ~70m? to head of Str. 1301m

grn. sch. sl. pt

highly fractured

pl-hb porph. 50B

~1/3% p. 50B

- ~30m SW of other large o/c examined previously

- ~20-30m 1 small o/c pale high alt pt-hb por. & more porph.

- then mainly large boulders for ~70-80m down

~5m o/c 1240m
pale highly alt. ser. py (4%)
rk (porph. ???)
KQ-91-58BC

- for ~20m downstr.
grades into v. rusty
py o/c

- scattered small
o/c's
same pale py alt rk

- ~70-80m ^{downstr.} 1185m
KQ-91-58D
same pale py (6-7%)
sem. siliceous?
alt. rk

~10m o/c

- protolith uncertain

- similar py alt o/c's
for ~30-50m
some dense grn
like horn. but no
evidence of bedding
- some grn chl.

28

- ~70-80m cover
slide to str.

junction (from E)

1135m

- v. pale, v. sil.
pyritic alt. rk.

(~50% py)
KQ-91-58E

- 20mS can on
(w) pale, jaspitic
stained o/c's
ser sil py alt
rk

270°/vert. fair
on "hackly" schistose
(qz veins?)

- some v. sil. v. py
hard o/c's densest
(~100% py)
in place o/c is leached

~ 50m? S

- 1080m @ base of waterfall
same sil. py (10-12%)
pale alt. rk
KQ-91-58F

- for ~ 80m S down waterfall

* much of this section is similar to very siliceous alt. rks off Iron Cap to bare talus

O/C 1025m
KQ-91-58G

- same high sil. py (10%) alt. rk.
Newhank

- ~ 50m W Sample site 19033

- ~ 70-80m cover downstr.
I was in gully W of main Stream

- 874m in alders
~ 100m above ice

KQ-91-58H 29

- 4m of i.
- med. grn-grey rel. unaltered
barren (negl. py) and. dyke??

- ~ 80m SE in ^{main} str.
valley ~ 30m above ice
pale grey py
alt monz. @
scattered oisom k-span
phenos

KQ-91-58I 810m

- ~ 15m S 58I same pale
grey py monzonite @ scattered
k-span xths - v. subtle can only
see because of excellent washed of

~ 5-10m KQ-91-58K to show phenos
ORIS-Ice 748m lithoch. sent

- at base of str. gully good of
- appears to be rel. large
area of monz. @ perhaps a few patches
- 1380m Camp of hornfelsic
seds?

Summary

- 1) Didn't find 1935 claim cairn
- 2) Some definite pl-phyrx poly lithic andesite breccia near top of ridge
- 3) Extensive pyritic altered rocks down most of hillside @ uncertain protoliths - no sections of well-bedded hornfelsic sedimentary rocks
- 4) Probable ^{N. trending} fault between 57B & 58A nr OR14
- 5) Lower stream valley @ V. hard sil. alt. rks @ 70% py is similar to Iron Cap - This section of stream should be prospected carefully but prominent veins, including quartz were not obvious.
- 6) Lower stream is good route down hillside
- 7) Lower monz. (or alt. Br. Porph?) is probably diff. important rkt type

High Ridge 30 North of Mitchell Glacier

Sunny, warm Tue Aug. 6/91
- @ Jack + Mariette

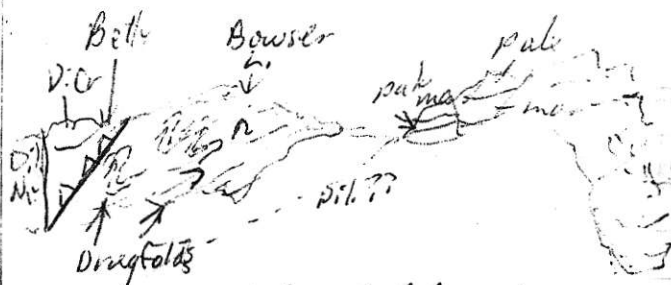
OR 1-6 - 2168m

- on Dil. rhyolite
- new survey sta.
- went ~ 70-80m E to mar. - pale contact Dil. Betty Cr. (Bob And. mar. Dil)

- can see a minimum of 100m of maroon lap. tuff? (or tuff br.) below us to E (strat.)

- photo (5m below contact) (very poly lithic @ deep red frags unit) overlying pale unit

- went ~ 100m N along
contact
2170 / 38° (NW) good
on bedded tuff
+ lap. tuff 5m
above mar. contact
- some local (debris)
"fish-eye" spherulitic
rhy patches



Sketch of Ridge to NE

- ~ 20m above contact
- 230°/32°(N) fair on bedding
- well units only 4-5m thick ?
(w) bedded mts bet.

- photo ridge (w 31
Sault NW of Treaty)
& Fiamme

KQ-91-59

- 1 = 4 11 21
- welded ash-flow
1 pale grey, white weathers
@ fiamme (photo)
for lithoclastic

- ~30m above contact
- ~30m welded tuff & then some ash tuff up r. dgs
- photo Ball Py. cave

- ^{thick} ~ 70m W of peak
20 cm lens 59A — v. local
lense of pale gm-
grey v. well-bedded
nt in welded
ash-flan tuff
— welded tuff dip slope
to NW

- ~50m W > 10m
thick weak rusty
pale unit @ ball pit
- some 1-1.5m & 2m
2076m KQ-91-59B

- amyg. rhy on
silicified basalt
@ pyritic amyggs??

2076m
- 20m W downslope
(~10m V. above pass)

- > 15m strat. of
rel. mas but bedded
white-weathering
grey (sl. man) ash
tuff @ scattered
small lap. & qz eyes

KQ-91-59C

U-Pb Zircon sample
(because of qz eyes &
probably same unit
that Bob sampled
at top of D. Swart
section on Mt. Di.)

- some diss. py 32

- can see N-plunging
fold from a distance

- ~200m W base of
cliff

- 230°/51°(N) good
on bedding in outcrop
qz-weathering qz in
epid. lusters & lap. for

smaller (last)
than normal KQ-91-60 (photo)

2080m - ~5m cobble cgl. on
at base of section
(photo) sitting on black
arg. - v. poly. texture
- beds roll & steepen top

- cgl. brs same unit
at base of cliffs
on west end

- maroon cliff - former
tuff-br. (some flow
washed rhy clasts?) is

~ 35m thick ($\pm$) (~1903)

(u) ~ 20m qtz
epiclastics @ base

- 2nd 2-3m qtz-br
unit interbedded
in top of black arg.
unit

- photo ballastic frag
in Betty Cr. epiclastic
in block

- ~200m SSW down talus
photos cliff ramps

pillow ramps
~ 10m rusty clv. D.T.
~ 12m rusty fos. limy
grit

- ~ 10m rusty Dil. +
~ 30m ^{lower} maron cliffs

1910m

260°/18°(N) (poor 33
on disrupted bedding
in cleaved limy
fos. beds

- strong clv. here &
in overlying felsic unit

- 050°/vert poor

spaced clv
(transposition of limy
units.)

KQ-91-61

one Buchia type pelecypod
~100m + W same elev

263°/35°N poor
on thick (30cm) -
bedded arenites
or Dil. ^{rusty} tuff?
top mar. cliffs

(u) fos. unit ~20m V
above

215°/85°(W) poor
on strong clv. in p-
tuffs because corring
& lineated

~80m W

1877m top of cliff

218°/32°(N) fair
on strong cleavage
in relatively flat
Gentle N dip (photo)

sheared bedded ~~qz-eye~~
ash tuff KQ-91-62A
- probably sheared equiv.
596

- ~50m W

275°/37°(N) good
N ← ENE SSSS ← ENE
cl → SSSS ← ENE
on bedding
- SE tuff

- photo many ridges NE on way back

- camp 1395m

Summary

- 1) Yes thrust in sedimentary unit above Mt. Di. Fm. but distributed sh. g.
- 2) Qz eye wh. weath. grey ash tuffs over welded tuff is v. similar to Mt. Di.
- 3) Fossil unit (~12m) bet. felsic tuff unit
- 4) Pyritic amyg. rhy (orbus?) & diss. in ash tuff beds

Upper Treaty 34

Glacier B.C.

(SE Ridge)

Cloudy

Wed.

Aug. 7/91

ORL-7 - 2332m

- bench or
rugged arete

- several photos
of ridges in distance

- white weathering
mas. ^{qz}hb porph.

(u) scattered
lap. & 10 cm block
frag.

- and. flow?

- some lithophyses

- ~70m N 2295m

dark KQ-91-63A
grey hb - pyrox. porph
rel. mafic

- sd. maroon
- unit ~ 6-7m thick
- ~ 5% large (to 15m) augite phenos.

045°/18° (SLV) good
on bedding
dark mar: grey bedded
tuffs & lap - tuff
br.

- 70m N just past
Jack's jasper
photo
- to 50cm aug. porph blocks
310°/25° (IVE)

good bedding
dark maroon - grey
tuff & lap tuff &
vol. br
vein L1 333°/150° plane
of vein
lineation 118°/150°
slickenside
L2 000°/130°

30cm pl-hb ballastic
grey block in mar lap bed.

- some contortia 35
- some gun-grey
hb(pl) phytic unit
- ~ 25m end of o/c
ice arete

- went S along W face
of o/c
- pale weathering
hb-aug porph flows
& low br & maroon
lap tuff unit @ large
out-sized, grey porph clast
& cleaved red tuff
@ blocks

- some amaggs
- then N along snow
below cliffs to Sta

① R1-B-2145m
- in saddle

- @ ice to S
- photo "insitu" brecciated
andesite
- KQ-91-63B dark
maroon-grey and. flow

- much mar. & reddish
colours & jasper in
fillings
- much vol. br.
(flow & proclastic?)

6 - high ridge to SW
~270°/30° (10) on
same bed, flows & massive
interbeds

- much flow br. to N
- ~70m
330°/25° poor
on bedding

in v. hard bed^{as}
to 4m rhodite

KQ-91-64A

14th D.T. Fm.?

Linda #10 Mar. 14/89

Hugh & Ross T. Hermitage

7 Dec 1990 John G. Stenhouse

- ~15m W 313°/72°
fair on bedding but
str. complex area

- ~max. 10m? rhy section
interbedded rhy., bl. arg.
mafic lags. tuff & limy
fossil locality

36

91 HSA 131

fossil locality

limy beds @ belemnites
polychaetes etc.

- ~5-10m? bl. arg.
rubble @ fos. lags
overlain by ~
5-10m pebbly
beds (rubble)

- backtracked to ridge
& went W.

~1m thick white
conformable chert?

unit @ wispy
dark (metallic?)
material KQ-91-64B

- could be rhodite
chert within rhy

- rhy. "invades" and by
so fixed contact
- still on ridge
- ~20m W. 2127m

293°/50° (NE)
good on pajama
beds

KQ-91-64C

from several beds ore ~2m

in fault contact

@ rhy (both striking
into each other

* some white-weather
(1cm) paj. beds contain
≥ 50% diss. py

- ~60m W above snow
rhy br is overlain
by ~10m+? of
buff-weather. arenite
(w/ limy conc. ± fos?
(Teancian S.S.?).)
everything else is
covered in talus

~300m NW

37

OR1-9 ~1950m

- point of old



~10m
Sketch of folds

212°/53°

340°/68°

both good on bedding
on 2 limbs of fold

rust axis ~ mod. N plane
well bedded and
- very uniformly bedded

~20m W

000°/37°N

fair on p. plunge
of reset antiform

to W

243°/50°

good on bedding
on next limb of
fold

- can see ~10%
white-weathering
Djama beds.



further contortion
W

- ~150m N across
1856m snow to pt. of
rust, well-bedded arg ± paj. beds

270°/54° (N) good
bedding

190°/86° (W) good on
spaced cl.

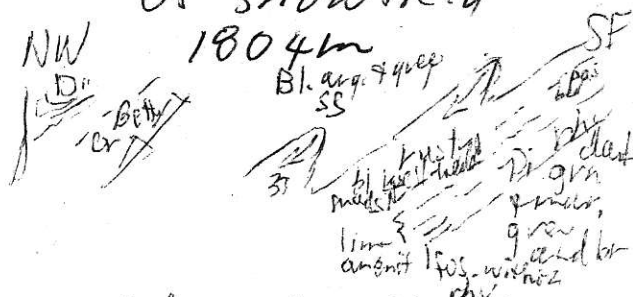
KU-91-641D

38

- typical black
carbonaceous py mudst
(no paj. beds over
3m - 4m but
poss. some up section)

- lower 1/2 of hillside
is v. rusty &
probably includes
the pajama bed
section (fewer
wh-weather beds up
section)

- ~100m W "Flat" part
of snowfield



Sketched Section Hillside
folds @ SE vergence. but
out of section

Camp 1385m (main start)

Summary

1) Stratigraphic section is different
- thick sequence (>300m) (in
cliffs) of ^{gray and green} andesite
flow (amag) and flow breccia
& inter-bedded maroon & red
lap. tuff & breccia overlain by
a thin unit (15-20m?) interbedded
rhy (0.5 to 2m units?), basalt, fossilifer-
ous lenses (in rhy. unit), s.s., cgl, &
mafic lapilli tuff, overlain by
~10m fos. arenite? (at limy cores) & then
220-30m? ~~py~~ contorted pajama
beds

2) Marine fossils @ rhy. indicate
that rhyolite was marine.

3) *Rhyolite has "fixed" contact
@ and. flows & flow br. (invades br.)

4) Same and. is augite phyriz

5) *White-weathering pajama
beds contain abundant (20-50%)
v. f. q. diss. fl. (i.e. they might be the
distal equivalents to Estay Cr.)

West Zone, Eraser 39 & Bielecki Zones (Surface Samples)

Rain, low cloud Thurs. Aug 8th

@ Tom Wright

~40-50m N ventilit
raise

~20m NE of

30+00E

50+40S

~0.3-0.5m high-grade

Ruby Ag ore of R1 (acordy
to Steve Roach) West Zone
KQ-91-65A 50 gm

- sampled the ~10-20cm
- wide high-grade
R5-6 Zone (narrow
high-grade zone between
R5 & 6) KQ-91-65B
3-5-10cm spherical ore structures

- 22
- sampled ~ N-trending narrow high-grade dark tetrah?
 - 1) 10-30cm-wide of Eraser Zone KQ-91-66

Bielecke

- 3 samples

KQ-91-67A

- from most western saw cut ~ 3m? E of pond on W facing slope vein material (5-10cm wide veins over ~ 2m NS)

KQ-91-67B - on E facing slope ~ 1/3 way down - EW & NS saw cuts over ~ 2-3m in each direction

KQ-91-67C - ~ 3m NEW trench dismembered, folded & boudinaged veins is gsserpy schist & stringers

@ electron & abundant 40 dark polybasite?)

- ~ 3-5m wide ~ Ellis silicates zone contains
- samples are prime for mineral and chemical zoning studies and to compare & contrast the different zones

- Bielecke & Eraser zones have distinct orientations & Bielecke distinct mineralogy from West Zone
Bielecke also has abundant very fine grained quartz

- Bielecke veins are strongly deformed & parts transposed into the schistosity

- according to Steve Str. @ Bielecke is in domical structure @ top of system

North of Shore Zone

fog am
 sun/cloud pm
 - @ Mariette
 - camp 1380

Sat. Aug. 10/91

~40m before sta

Z ~ 10cm qz por vein
 1320/190° (500) qz
 vein + clv (schistosity)
 ~ 3m subparallel
 qz vein
 ~ 4m 1m qz vein
 in strong serpy schist
 zone

- E of road fol. aureole

① R1-10 - 1390m

- road junction
 @ Ströman

~15m W

41

315°/80° (N?) schistosity
 silicified

- flat 3m¹ qz vein
 or sil. grey dyke??

- several qz vein
 systems in dreg.

- ~12m N up road

~6-7m grey sil.

porph.? KQ-91-68

- for ~35m N along

road mostly
 besides qz bl. ag.
 265°/54° fair py ser schist of
 possible different
 15m
 569A protoliths (vol. sc. int.)

KQ-91-69A

bend in road @ 93m
 145°/75° on 20-30cm
 173°/11° qz sp

py ser alt. Vol. int.
 305°/90° on schistosity

- ~50cm E ~5cm subpar.
 (vein in sample)

~ 6m N 1405m

165°/60°

on 3^{qz} veins 1-5cm

- scattered qz veins
in qz ser. pu
schist

KQ-91-69B

typical py ser
schist

- ~ 20% qz on stockwork
(py & kfs veins)
& relic pebble cgl.

- ~ 10m N on strike
stockwork T-11 (Esso)

- ~ 20m up road

245°/85° in trend

qz veins 3-15cm

~ 10m
up road

120°/85° (SW) good
sch.

KQ-91-69C

42

completely leached
qz bar stringer
system

= 4-5m wide on
small ridge E side
of road

* (on strike @ Shore
Zone)

- ~ 15-20m N on road line
grey fol. sed br.

- ~ 35m N up road + 15
m E of road

- 133°/79° (SW) good
on c/v (sch)
pale grey ser. p. (10)
fol. and br.

- NW side of road up
20m hill @ old plants
on it

ser pu schist
of cal. veins KQ-90-69D
~ 25% py xtls

- ~30m N on road
~35m E of L.
"Africa"
- ~9m E of
road ~9m wide
Extrench (T-32?)

099°/85° good
on schistosity (ch
in ser py alt.
zone @ ~2-5%
qz (± barite) veins
KQ-91-69E

128°/90° some 1-4cm veins

- for ~10m NE
rusty ofc @
~10% stockwork
(no trenches but
poss. covered in snow
earlier)
- contacted buckle-fol
veins some (~E-W
& NS) to 20cm width

1452m

- mainly leached 43
but KQ-91-69F
some veins @ py
& grey min. (i.e.
or ^{weath.} far higher than av.
py? grade? - but
sampled because
most of ofc is leached
(LC sample mainly
just to check veins)

1430m

- ~100 E to main sta.
fol. ser chl. py
and ?? vol.?

275°/70°(N) on fol.

- still ~1/2% py + X ser
but some sections
are grn & chl.

~70-80m downstr
to sta.

fol. chl ser (py) and
some pl phytic

OR1-11 - 1414m

- @ stream junct.
& base of cliff

- ~5m of v. pr
(40%) & ser schist

KQ-91-70A

300°/86°(N)

good on schistosity

- blocks from cliffs
are flattened
pl phytic maroon-grey
and bn.

- pl phytic and
- minor rusty zone

~80m SW to gully

1400m ~ 10-12m wide

leached ^{rusty} zone

(w some veins (50%))

310°/90° schistosity

330°/90° some veins

KQ-91-70B

44

leached vein &

Schist
rusty schist & gully
extend to N. Bruce
Zone

- too leached to
evaluate sulphide
content

- ~5% min sch. sample
but no sulph visible
in leached veins

- Camp 1370m

Summary

1) KQ-91-69A is probably a well-min.
vein set.

2) KQ-91-69C ridge contains abundant
qtz & barite veins & is on strike @
Shore Zone. It could be the ext. ^{off} Z.

3) KQ-91-70B is in rusty valley
that is on strike @ North
Brucejack Zone & could be its extension

Head of Mitchell & Knipple Icefield

Sun & fog Sun Aug 11/99

(w) Tim & Dave
(Surveyors)

OR 1-12 - 2/20m

Newman Sta. 24

- top of bedded
Knok

- head of Mitchell
& Knipple Icefield

220°/11° (NW) good
on bedding

- seeds, interbedded w/ fos.
might be dusty tuff

limb
fol
dense
- ~ 7-8m lime
gritty x-bedded
fos. S.S. to gritty pebbles

cg l.
KR-91-71A - 10m gritty unit @ fos

KR-91-71 fos.

- probably from 2003 bedrock
but 0.5m main bed

mainly pelecypods
Trigonia, pecten etc
belemnites

- probable 5-6 45
10-cm lime fos
beds

10arcian ? lime
photo KR-91-71A cgl. 2m bed
photo KR-91-71C
5m cgl. 6m bed

- ~ 5m grey wh.-colored
bedded dust tuft or aerolite
tuft

KR-91-72A permit

- ~ 2m pale grey
grey rhyolite

@ ball (see 53?)
feld. (microclites)
KR-91-72B

- 202°/10° good
on bedding

5-6m thick bed
purple grey tuff
mainly 2-4m cherty inter
+ pebbles to maroon unit
KR-91-72C

205°/8° fair
on bedded grey
tuff? just above

maroon contact
 KQ-91-72D gun-
 Di. base of graded lap to tuff
 bed ~ 1/2 m above mar.
 ~ 10m down in mar.
 & bright red
 tuff & lap.

190°/240° good
 on bedded lap.
 72E tuff & tuff
 ~ 4m dist. mag. @ 9m to 10m
 at top KQ-91-72E
 ~ 25m maroon

unit
 - 72F - ~ 5.6m well-bedded
 mar. tuff lap tuff & tuff
 - sh. graded some brown bedded
 10-20cm clasts
 - photo section
 from snowfield
 ~ 2055m base of
 o/c.

KQ-91-72G - ~ 4-5m bedded
 sh. more clay. hem red tuff lap tuff
 contains collected light on top of unit
 - ~ 18m wide diabase
 dyke
 265°/80° fair on dyke

KQ-91-73 46
 * pen @ alt. 1368m with dyke
 - cuts maroon
 & red unit but
 is truncated by
 Dilworth (photo)
 - 2nd sm dyke to N
 - epid. & cal veins in dyke
 - strat. photos
 going up section
 photo mar. unit @
 red & green lugs
 to 50cm blocks
 KQ-91-72H

10m unit exposed
 - camp 1368m
 - approx.
 ~ 10m ss. seds & tuffaceous
 seds
 ~ 20m Dilworth rhyolite

~ 20m Maroon unit
 (+red) exposed

i.e. - 50m of section in o/c

- can see same units to S (photo)
- on E ridge of John Walker
- no significant cleavage in any of these
- but have red buff & gritty bl. argillite
- are more flattened

Summary

- 1) Long fossiliferous beds are probably Toarcian & might be interbedded with
- 2) These beds could have an erosional surface @ underlying graphitic gritty mudstone beds (photo)
- 3) Mt. Dilworth Fm consists of 10 cm to 2 m thin units that at a distance are well bedded, contain minor but don't include welded tuffs. It contains a 3' clay plate green phyl. with microbl.
- 4) Maroon unit is not epiclastic. It is probably a product of mafic subaerial vol. eruptions. It is very different from the overlying
- 5) Mafic dykes (photo) are clearly truncated at the base of the Mount Dilworth Fm indicating a significant, non-angular erosional gap which it is not readily apparent from average of relationships
- 6) Sta. 24 knob on E ridge of Mt. John Walker are probably in a down-dropped block
- 7) Rocks on E slope of Mt. John Walker are highly contorted

South Side South 47 Treaty Glacier

Sunny

Mon. Aug. 12/91

- with Tom

OR 1-13 - 1613 m

- prominent point of o/c w of knob @ 900'
- photo W of knob @ 900'
- 242°/40° (N)
- good on bedding
- bl. mudst. & med. gun-grey irregular
- f.g. - even grain size (no obvious grading)
- one unit 10 m thick
- a 60% S.S.
- can see some, some 50 beds upright
- some sh. rip-ups & X-beds

KQ-91-73A

- f.g. med grey
feldsp. S.S. from 10m-
thick bed

- ~30-40m sand dominated
& then ~30m highly
contorted & brecciated
bl py arg unit

(u) folds - soft sed
or tectonic?

(Tom prefers soft &
I prefer tectonic)

- overturn @ wh-rusty-
weath. folded beds

- ~100m cover ^{285/65°N beds ~100m dip}

to embayment
@ str. - 1572m

rusty
sh.

- bl. arg.

245°/29° (N)

fair on bedding

- flattened py conc

- ~50N in embayment

48

224°/64° fair
but on contorted
bl py arg.

- ~200m cover
moraine

- 1525m - ~100m
before pt. of o/c & str.

225°/64° good

on 15m undisturbed
well-bedded bl.
mudstone

- ~30m N photo
floating fold hinge
& detached fold
hinge in fragment
in shear zone
both brittle & ductile
features

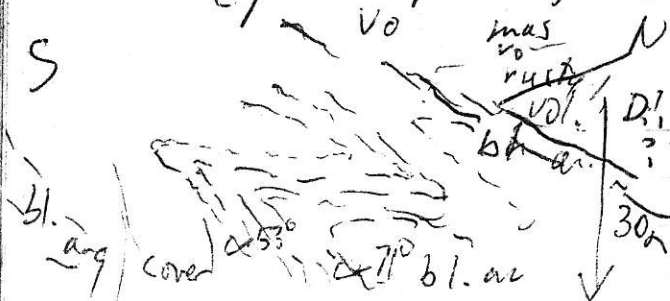
230°/64° fair on
strongly sheared bedding

~25m N pt of o/c
 HQ-91-73B
 - typical pl. arg.
 (well-bedded in o/c)

~30m core to pt of
 o/c (sta)

① R1-14-

- pt. of o/c
 - 2 overturned
 folds in greywacks
 + bl. arg. in core
 (photo to W)



Sketched Section

236°/53° (N) good
 bedding in lower

limb of fold

49

- overturned bedded band
 on scoured bases of sand bed
 240°/71° good
 on sh. overturned
 bedded in o/c arg. in
 core of fold

- 250°/52° approx
 axial cleavage in
 core of fold

~20m
 255°/75°
 poor axial cleavage in
 dec. (slate) in core of fold

- scattered talus blocks
 along slope dark cherty pebbles
 - 10m went west
 to o/c below ice
 upright section
 near Dilworth

- some highly slickensided
 mafic vol. blocks

- ~ 100m cover

KQ-91-74 -

talus blocks
from thick unit
of Dilworth rhy.
(white & rusty-weather)
exposed in cliffs,
above

- along ice
~ 100m cover
(moraine) to
star

OR1-15 - 1460m
- point of
o/c at bend in
glacier

- base of o/c pale to red grey
alt. ser py (1% schist)

KQ-91-75A

20+ m of pale 50
alt. basaltic pillow
lavas & hyaloclastite
br. (w 1/4% py) &
froth 1 to 20cm
frags.

KQ-91-75B



OR1-15

- some folded black
arg. near star.

then ~ 100m cover
~ 30m above ice 1462m

KQ-91-75C

pale (py) alt. amyg.
pillow lava?

- mas. f.g. sills (± flows) for ~50m at top of talus
- ~30m snow to c/c edge of base
- ~50m above ice 1450m

085°/51°(S)

good on bedded
bl. ang. overhang

by pale poorly
columnar jointed
sl. amy. bas. flows
on sills ~550m
to S? (in fold?)

KQ-91-75D

~40m N cover

~20m f.g. xtl line
green r/f

~1 1/2 m still on
dyke in red lap. off

OR-16-1452

- base maroon
o/c ~30m above
ice just N toe
hanging glacier

080°/42° good⁵¹
on maroon^{red}-grey
bedded tuff & breccia

- upright? scour

- ~10m

50cm blocks

in mar. matrix

~10m N

KQ-91-76A

76AA - match. stain mar. rock in talus

mar-grey unit

- ~20m N hen nest
tuff - @ scattered frags

080°/28°

fair on possible bedded
76AA (Tom found match, stained, pieced off)

~15m N 085°/28° bedding

~15m N

- 100°/42°

fair on maroon
epiclastic S.S. tuff

073/48° (S)

Fair on well-bedded
mar. red + grey
epiclastic S.S.
lap. tuff etc.

720m of typical
Betty Cr. epiclastic
load casts indicate
upright

- ~15m N cover + then
15m grn and. br. @
amyg. clasts

~30m W uphill 1500m
- pale dyke in well-
bedded mar. epiclastic

photo 072/66° Fair
KD-91-76B on 1 to 3m wide

wh. - weath. grey rhy.
dyke - vesicles nr contact

085/52° good
bedding same site
X-beds, synsed faults upright

- photos across glacier⁵²

- ~150m NE cover

- 76C pale alt
py mafic pillow
lava (poor pillows)

~20m V above ice
+ 10 W of snow path
for 20-30m contouring
+ then green epiclastic

282°/52° (N)

fair on
contorted bedded
in wh. - weath. grey

epicl. gg / S.S.
- also some steep dips E + minor S.S. in
- some tuffs (2 syn sed? Fair?)
1372m KD-91-77A

- some flow-layered
1-2m thick with rh.

Dil. to span porph unit
OR-17-
1333m ice @ snow slide

- Camp 1392m

- some dense ~~where~~ rhyolite.
KQ-97-77B K ~~779~~

1-2m - thick flow-layered
rhyolite ~~779~~

Summary

- 1) Complex folds in Bowser Lake Group - possible SE thrusting, possible thrust ramp N side of glacier, 2km E of marker beds with Bowser L. Grp. on Bowser L. Grp.
- 2) Mt. Dil. Fm & Maroon Bk. Creek crosses glacier where expected but is probably faulted out near glacier & also occurs to the north and south.
- 3) No evidence of any significant mineralization.
- 4) Maroon rocks on Betty Cr. is different on both sides of the glacier.
- 5) This is probably the only place known with a felsic dyke(silic) cutting maroon Betty Cr. epiclastic rocks.