

Sulphurets 803609

RVK
Canada

Book II 1993

Ministère de l'Énergie, des Mines et des Ressources
Commission géologique du Canada

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Commission géologique du Canada

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C.G.C. 146-S

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Mitchell - Sulphurets
Ridge NW of Hanging Gl

Monday
July 26/93

press. dropping
Cloudy, rain

- assumed destination 029°
- " Newhawk camp elev.
1390m (1380m incorrect
on Newhawk's maps?)
- Lorne Ward V184
(BCW) pilot

start top of ridge
near DRU-3 - 1915m

- walked fairly fast to 879395
- sampled previous/sk somewhat
foliated chl. and br.
- in saddle at snow draw
~3m g3 ser py schist
- crossed 2 - 1-2m
wide py ser schist
zone @ chl. schist has
in fault? draws

~100m W down ridge
25
 $270^{\circ}/80^{\circ}$ good
on fol. in chl sch.
in and br. (pl phyris)
4 to 5:1 aspect ratio on clasts

~80m W - draw 4-5m?
pale rusty ser. schist
(fault?)

1805m saddle just past E branch of fault
- ~30m W $253^{\circ}/56^{\circ}$ (N) fair
on bedding in arenaceous
cgl. pebbles set in
c.g. arenaceous matrix

* some limy lenses
* Might be Sack Fm.

~100m W on ridge
 $115^{\circ}/34^{\circ}$ fair on interbedded
x-bedded arkose & pebbly
cgl
some grey interbedded slates
@ limy concretions

- some limy conc. in S.S.

277°/73°(N) good
on well developed
slaty cl. in grey
siltst. @ flattened

limy conc.
(slim possibility some
were fossils)

- some py rusty areas in siltst.

~50m S 274°/78° good
on slaty cl.
in limy shear siltst

- sh. limy slate to contact
@ rusty rocks below
~50m W 3m Vert. below ridge
KR-93-47A

typical pale ser. alb. rock
@ ~2-4% f.g. diss. py
(poss. arenite?) some leached
rusty qz (py?) veinlets

- ~5m E of 47A 2-3m rel.
unalt. gndp anyg ~NS? chlyte

grades to AY 200m
down hill to S ~5-7% f.g. py

~20 - 30 m V. South
(above grass) more than E of then
into city S.S. 26

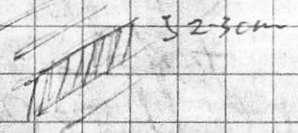
July 193 limy grey rainflow
State @ core by 11/06

- assumed declination 029°
- " Newhawk complete,
1390m

1770m
- ~200° E ^{contouring}
50m V. below
- 280°/30° N fair
on bedding
pos. limy siltst.

~7m
- 26°/50° good
multiple beds
pos. ser. gndp
into fault

22°/80° fair
on ch. in
west beds
3230m



- mainly 1-4m beds
 - some poly lithic
 grm br. & tuff
 pale matrix &
 dark inclusions
 some 3-4m br^{sts}

~50m thick
 1700m 31 of 400m

base
 2.5

beds
 tuff
 & lapilli tuff
 (xth & lithic)

2 to 10cm tuff
 beds
 competition
 in competition
 competition

discontinuity
 - some dark
 263
 weak discontinuity
 gl. spaced etc.

- narrow ^{2-3m} rusty (seam)
 zone 28
 down in fault
 probably near fault
 - quite out of
 W of fault

1076m ~150m
 205-150m
 on same level
 dark inclusions
 mainly tuff
 for 30m

~60m S 1650m
 KQ-93-48B

typical pl. ph. ph. ph.
 dm br. disc.
 27-4/10/11
 grm br. disc.

- ~30m W to Creek
1635m

285°/87°

on sch. zone
in gully

> 7-8m wide gsserp
sch. zone in creek KQ-93-48C

1400 5-70

bedded, rusty, alt. cgl + arenite

- ~~rusty~~ c.g. arenite?
???

~20m W about gully
2020 890

~20-30' cm wide
rusty g2m

margin of g. diorite
KQ-93-48D^{29'}

pt. ser. at margin
in gully

- sample at
creek

- ~100m W 1645
KQ-93-48E

pale pt.

(5-70%) sig. dss

sil. (serp) alt

rock
seds + po. duff
g?

~ 50m W

X 150°/80° trees

W. in vertical
barren, medium
200m in height
light

~ 150m W of picture
spot

- variable alt. over
date 9.2.1964
in 100m
S. 100m

OR3-16 - 1030m

good
natural
helicopter
pad

pick up spot
(center) 100m
of fog - 300m
good as track
at alt 900m
arenite block in
valley

319°/57° (alt. 500m)
a better orient. possible?

KQ-93-48F

30

sheared T. oriented
sample

~ 30m W
356°/54° fair
on vegetation
W. with red

in 2-5%
f. a. (diss.) with seeds
(w. some other pale
in young zone)

- high's fine forest
crumbly etc

- checked at around
Sta. as for good
for helicopter

~ 470m NE of 48F

KQ-93-48G

pale (alt. 700-800m)
alt. red (arenite)

~30 m S of road KO-93-48
 N.E. of valley? (unconformity)
 (only visible) mudstone
 @ base of diss. pl. but
 some malachite & Fe
 along Gullies

- Camp 1400m (1410 on cont. a bit)

Summary

- 1) Wet, foggy day - unfortunately difficult to see many features on hillside
- 2) Cgl., S.S., siltst, mudst @ time conc. (2-10cm) is mostly only alt. locally & definitely could be the Jacks - some lime patches might be fossil
- 3) Green, epidotic bedded vol. br. play xtl tuff, lapilli tuff & dust tuff has similarity to bedded vol unit S. of Cataract. It might sit on the Jack Fm.
- 4) Probably at least 2 significant faults @ W side up
- 5) Increasing py & alt down & west

Marmot to Sulphurets
 Glacier South of 31
 Hanging Glacier Creek

Tues. July 27/93

Fog
Cloudy

1747m

- started ~70m N of KO-97-455 & 100m W of SOB-284
- ~30m S of where road goes under snow
- checked 30-40m around road + starting point - mainly highly alt. pale silt? py (1-3% diss) altered rock - some is probably sedimentary and some local highly alt. pl-hb porph. (with phenos? on weathered surface) ~2m from snow
- ~25m NW pale pyrite (2-10%) silt? altered arenite?? (KO-93-49A) ~1m into vein on S side
- some limy hornfelsic rocks dipping ~25° ~ S
- 115°/34° fault on bedding
- limy beds might have contained fossils.

o/c is rusty & cross-bedded
probably as a result of
pyritic stockwork

1 - 20-30m druse 182°/77°
93 ⁹³ vein 5.8 km
- too leached for sample

- ~20m W > 35m composition
post-mineral Premier
porphyry dyke

KQ-93-49B - nr. W side

- ~10-15% white-yellow
medium grained

alkali? (K-spar?) phenos
set in med. grey matrix

- section @ peak green

pl. phenos?

- 5+% m.g. alt. hb. phenos

- tr. py

- enclaves of rusty alt
bedded (mod. S-dip)

py seeds

- V. minor scattered large
alkali feldsp. phenos.

- pos. some pale py alt. pl-hb.
porph.?

+ then fractured py 32

~40m SW ^{alt horn. med. seds}
^{near snow} ~5% diss. py
290/53° floor

- on. relic bedding in py
alt. horn.

- py hackley horn seds for ~20-30m

then more mas o/c's of v. diss.
highly alt. sil.?, ser., py (7-8%)
more mas rock (type?) ^{for} 50m

- tr up in one spot above snow

- to W across snow & in

med. grn ^{4-8%} sl. py alt. pl-hb porph.?

- less alt. ~ 1-2% diss.

f.g. py - more prophytic

type alt. - some calcite veins

- ~30m W 1630m top

of o/c - talus slope

KQ-93-49C ~12%

med. grn-grey prop. alt. pl-hb ^{5-8%}

- far ~20-30m SW to base

of o/c paler more alt

~ 3-6% diss. py

~ 50m cover to base of
slope then

med. green-grey cl. c.g.
alt. py (1-3% diss)
pl-hb porph. - less
altered than o/c above

~20-30m E of moraine,
~70-80m downhill
below snow

1530m KQ-93-491 - pale
pyritic (~2-3% diss. +
fracture) sil. to propyl.
alt. pl-hb porph
cut by minor qz veins
(w minor cp)

~70-80m SW top of
QR3-17 cliff ~15m SW of
1508m end of upper moraine
same pale py alt.
pl-hb porph. (w
~3-5% c.g. diss. py
KQ-93-49E

-traversing near moraine
because better o/c

~100m SW down
o/c grass + talus 33
pale v. py (5-15%)
alt. rock (sil. ser.
locally) - some qz
veinlets in talus blocks
too alt. for this type
(red. porph.?)
1/2 20m nr snow
~35m S of end
of lower lateral mor.
KQ-93-49F
typical of pale py
(~7-10%) highly alt.
(sil. ser.) rock

~30m cover then down
grass slope @ a few
scattered o/c's - ~20-30m
S of moraine

1380m KQ-93-50A
v. pale alt. (ser. sil.?)
py (1-3% diss) qz-bearing
arenite? - not pl-hb porph
because ~15-20% m. to c.g.
rounded qz but alt. too

intense to identify rt-type

- ~ 2 patch ~~traces~~ ^{traces} ~~bedded~~ + ~~fol.~~ ^{poss. str.} dip steeply

- ~ 50m SW ~ 20-25m E
of large boulder on moraine
1320m - ~~KQ-93-50B~~

same pale alt. arenite?

(~~W~~) gs grains

- ~ 80m to 100m SW to where
stream meets moraine

- although rocks are intensely
alt. less pyrite than uphill

- no good bedding

- possibly Suct Fm. arenites
but if so they are v.
highly altered

- ~ 35m SW small o/c in
dry stream - med.
green-grey ^{prop.} alt. sl. py
mudst.

~~OR 290~~ ³⁻¹⁸ - 1290m

- junction 2 streams
at moraine
med. green-grey propylitically
alt. mudst. ? ~ 1-2% f.g.

diss. py + chl. clots

- might be Stuhini Group 34

- local areas v. chl. but low
sulphide

- ~ 20m down stream
KQ-93-51A - med.
green-grey chl. alt
mudst. ? ~ 5% f.g.
diss. py + poss. fr. cp?

- ~ 20m down str.
300°/58° poor or
relic crumbly bedding

- ~ 20m start f.g. qtz
py (~ 1-4% diss. + fract. + trcp.)
prop. alt. pl. hb. porph.

- ~ 20m 1265m (alders
+ trees on moraine)

KQ-93-51B typical
py qtz chl. alt. pl-hb por.

- ~ 30m down str.
4m o/c of relative

barren (minor diss. py)
sl. alt. Sulphurets porph.
(albite & hb)

- some hairline magnetite
veinlets cutting
porphyry (+ up to
25% diss. py)

- rubble along stream slope
indicates porph. might
be ~ 20m wide sill?

- 1249m 300°/60° (N)
poor on small o/c
grn alt. py seds

~ 20m to junction 2 streams
one to E is dry

- down str. for ~ 20m
alt. porph. @
1-5% qz vns ~ 1% op
& minor cp
~ 1/2m bar. druse & dia.

176°/78° gougey / rite

1240m then to Q-93-51C
Fault

typical of qz vein
stockwork @ 35
~ 5% veins ~ 1% op
& minor cp

- ~ 20m cover
for 60m downstr. same
porph (sl. "Christmas type"
ie. sl. red & green) but
@ inch. qz veins

1210 KQ-93-51D
porph. @ ~ 25+% qz
stockwork (many vein
orientations) but only
sparse py & cp - ~ 4%
magnetite

- biotite alteration?
- qz stockwork restricted
to porphyry

- only ~ 2m of qz vein
stockwork ends abruptly
adj. v. sil. pale grey ps
(~ 5-6% diss.) highly alt. & rite
@ only minute qz veins or
none - minor polyphase

(didn't
observe
contact)

sl. 270-80m down waterfalls
1200m KQ-93-51E
typical of pale grey
py highly alt. rts.

~40-50m cover
stream near mor.
many large boulder

1172m KQ-93-51F top
water fall
same pale py (5-7%^{alt} + track)
dense sil. alt. rts

1147m ~30-40m downstr.
330°/88° poor
on helic bedding
same pale py
alt. rts.

~30-40m? cover
then pale py ^{highly} alt.
f.g. porph. ? (11-2%)

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porph. (pale alt. py (1-2%) f.g.
porph. for ~30m downstr. ^{block}
then coarser g. 36 fractures
less alt. albite-hb.
porph. (1100m top
of waterfall) KQ-93-52A

- scattered o/c's porph.
for ~50m

- 1050m ~15m before
waterfall & edge of
trees & open area
KQ-93-52B
same porph.

lichen & rusty covered frack
o/c down slope kulf
carb alt. porph. ^{in other} rocks
~70-80m before sta. KQ-93-52C
~15m before sta. KQ-93-52D
rusty weath. alb-hb.
siliceous porph. poor sample
- rush for copper

OR3-19
980m top of mor. below
alders

- no o/c top of steep m drain
~60-70m vert. above ice

Camp 1400m (control alt. 1392)

Summary

- 1) Substantial barren post-mineral Premier Porphyry body (dyke on Golden Marmot (KQ-93-49B))
- 2) Sulphuret? porphyry in lower part of traverse (KQ-93-52A-B) is also large barren but some diss. py & buff-weathering carbonate altered zones - some scattered large (1-2cm) white phenos. might be k-spar - some mantled phenos (52B) that might have k-spar mantling albite? (check ^{52B})
- 3) KQ-93-51CYD is probably a different more felsic porphyry characterized by greater alteration & 10-30% qb vein stockwork @ sparse cpx py & ~1% diss. mag. - check also possibly brookite (potassic) alt.
- 4) Also a few traces of cp higher up slope to Marmot area
- 5) No "good" Jack Fm in traverse but the pale ser. sil. highly altered arenite (50A & B) could be alt. Jack Fm.

South Slope Mitchell-Sulphurets Ridge above 37 Chibougamau Zone

- Wed. July 28/93 Cloudy
- photo N side Mitchell Gt.
 - started in saddle 1800m of possible ~~Chibougamau~~ Jack Fm.
 - KQ-93-53A - typical of ^{buff-weathering, pale grey} arenaceous cgl. @ ~20-25% lithic & siliceous pebbles
 - went W along N side of ridge cgl & then mainly grey slate @ lime patches for ~100m
 - poor ofc pos. N side striking 2-3m barren Premier Por. dyke
 - rel. abrupt change to intensely altered pale grey ser. py (~30%)

diss.) altered rock

- local areas relic alt.

feldsp. xtl but
mostly original texture
destroyed

- variable fractured

o/c so might be

alt. sedimentary rocks?

~100m top end ridge to N

same with some qz

stringer

- ~100m S across ridge

v. poor rubble surface

@ few good o/c

some pale py alt. ser.

KQ-93-54A

1780m

~2m below top of

ridge on S slope ~

20m E of claim posts

same pale ser. alt.

vt. local small qz carb

veins (~2-3% diss. py)

- photos E of bedded and

Kerr, Bracejack L. + Sulph. Gf

- crossed ~1m barren mafic ~~vein~~
dyke

1740m - ~1/2 way to 38OR3-16

pickup spot v. yellow

Jarositic rusty op's + talus

KQ-93-54B - typical

pale py (2-4% diss. o/c) ser.?

(sil??) altered rock

v. uniform alt.

- minor qz veins locally

- some pyritic veins in

best o/c

- ~20-30m o/c, then

~70-80m talus of then

50m o/c to OR 3-16

(1620m)

- ~20m SW of OR 3-16

1610m

340°/52° fair on relic

contorted bedding

clv. in incompetent beds

- v. gossanous broken o/c

pale ser. py alt. vt. beds

- photo SW + W of Sulphur

Gold Cliff (2 goats at top)

- very crumbly
variably alt. rusty
gn. chl. to pale ser py
alt. pl-hb porph.
on lower cliffs

1528m 264°/73° good on
10cm-wide py vein
in canyon

130°/54° good on
2-10cm cal py vein
up stream
probably cuts st py
vein?

1528m KQ-93-54C ^{30m above}
^{str. junction}

typical of least
alt. med. grn-green
(chl) pl-hb porph.
($\sim 1/4 - 1/2$ diss. py)

- might be mainly post-
or late-mineral (??)
(cliffs are not as
rusty)

- no major faults in stream valley

~1525m 2 low-angle mafic
(pl-hb[?] needles) (diabasic)
dykes upper $\sim 1m$ thick

lower $\sim 50m$ thick 39
trending sl. uphill east

- same sl. py grn-green alt
pl-hb porph. down stream
- some calcite veins

1448m - $\sim 5m$ above base
of cliffs - grass E trees W
same chl-epid. propylitic
alt. pl-hb porphyry
KQ-93-54D ($\sim 1/4$ diss. py)

- might be \sim dip slope on
pl-hb porph. dyke swarm??

160°/60° (SW) guess
on trend possible dykes
(1-5m???) in stream canyon

- similar olc (ep. - pale) (pl-hb)
for $70-80m$ (390m) $\sim 1/2$ alt
(end of water in str.)

for $\sim 70-80m$? scattered
olc's more leucocratic
(felsic?) porph. ($\sim 1/2 - 1/3$)

scattered t_2 -1cm white
alkali feldsp. phenos
pale white @ $\sim t_2/0$ dist.

1345m KQ-93-54F

nsom to trees to E
- o/c's for $\sim 40m$
then cover for $\sim 40m$
to top of canyon
- same leucoc. ^{si. alb.} white? - hb
porph @ $\sim t_2$ -1% diss. py

1292m top of steep canyon
in trees

- hb is ragged
- porph. is cut by 2
young mafic dykes
(post mineral)
dioritic to diabase
 $\sim 2m \times 1m$ wide

155°/78° good on contact

1292m KQ-93-54F 54F

$\sim 25m$ s down steep dry waterfall
same pale porph. but more
rusty $\sim 1\%$ diss. py
& hb' destroyed

1275m KQ-93-54G

$\sim 40m$ down canyon
same ^{py} porph. 40
rusty, relict hb.
157°/55° good

1237m 30-40cm wide

gossanous pyritic
fault zone
- walls of canyon
are more fractured
indicated disrupted
zone

for $\sim 35m$ down

1215m-canyon same fracturing
porphyry & then
 \sim rusty py
hornfelsic seeds
both walls but
opposing dip
to steep to get
down so climbed
out to NE

$\sim 80-90m$ s down steep
aspine tree-covered slope
top of alder 1175m
small o/c F9, alt
pl-hb por. might be dike

- down steep slope
in trees for ~200m
no o/c ~70-80m E
of canyon
can see v. rusty
jarositic cliffs in
canyon

- 1050m 1st good o/c
in trees rusty
pale py (sil., ser)
alt. rock

1012m - climbed back into
canyon near base
of many waterfalls

KQ-93-55A
pale highly alt. ser.
py (5-7% frq. diss. &
fractures) rock

- unknown protolith
~20m S down waterfall
same pale alt. ser.
210°/27° W poor on
bedding

for ~20m S similar ⁴¹
bedding in highly alt. pale
py ser.
then ~3m o/c at end of
canyon

- ~50m SE to rusty cliff
face (many assay tags so
must be McQuillan Zone)
- 980m W side lower part
of cliff (med talus)
KQ-93-55B

typical Premier-type
Cu₂S-1% scattered 0.5-1cm
white alkali feld. phenocr.
pale py alt. porphyry
~2-3% diss. & fract. py but ^{disseminated} high.
- some malachite & azurite
stains along fractures
- photo cliffs
- possible ~1.5m NS mafic
dyke in cliff
- no large malachite stains
- went W back to stb.
for ~200m S no o/c

- stream is steep but passable

850m 260°/55° good on ^{1400m} zone
py. veins KQ-93-SSC
- d/c in creek pale alt
py nk @ extensive py vein network
one part of d/c relic porph. texture?
usm^s: KQ-93-SSD
typical pale py wallcut
cut by some qz (py) veinlets
- some calcite veins
- very intensely altered & veined d/c - too little time for extensive prospecting
- ~120m to ice 770m
~150m E of Chibougamau Zone - incised moraine
- no d/c
- photos - Chib. Zone (oblique view), McQuillan Zone Sulph. Gold yellow cliff (flat dyke in dark nk) & faults
NE corner Fern Hill

1/2 rusty areas above Chib. Zone
& east from McQuillan Zone
Camp 1400m (also 400m) ^{control}

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Summary

- 1) Transition from Jack Em-type seds. to altered rocks W on Mitchell - Sulphurets ridge is abrupt so is probably a fault up W branch of stream
- 2) Down creek at least two major porphyries (matic med. gra - grey ^{prop. chl. feldsp.} alt. pl. h.b. porphyry in upper part & more leucocratic pale alt. Premier Porphyry below (sl. more py 1/2-1/3) & possibly a third at the McQuillan Zone but it is similar to the leuco - Premier Porphyry @ ~ 0.5% 1% 0.5% 1cm white alkali feldspar phenos
- 3) - all rocks should be stained to determine if pale feldsp. is albite similar to Sulphurets Porphyry

South of Mitchell
Glacier West of Suedel

Sat July 31/93

fog, drizzle
but pressure
up (elevation)

1640m = let off in fog
- on low rocks in ice
N of ridge crest

~ 150-200m? W of 100-86-72?

- ~ 50m E 5+000 2+50S, 1600?

- smooth glaciated rock
(granitic) etc's of pale
grey pd alt. alt
gs - ser. schist
Cretic and br. texture

- ~ 1-2% of v. clinkers
- ~ 5-10% diss. f. frags
- rks. are very ser.
ca 100m E 7 up

- 1680m base of ice ~ 90m S road
236°/75° fair on
Schistosity

- near survey sta # 37

~ 100m E 9 up

234°/24°

dd. mafic dyke cutting
serpy schist (100m
mineral)

1740m Snowfield

dd. mafic dyke cutting
serpy schist (100m
mineral)

1510m ~ 50m N
270°/80° fair on
at stream

picet 7+000 4+05

- ~ 30-40m S
"acc. chert"

○ R3-20 - 1570m

- picet 8+000
4+50S

So

N

- at stream toe of
ce of quartzite

o/c - many
irregular veins spaced
in ch. schist

~20m NW down stream

283 / 77 good

on E. side

small - more

10' S. of base

local 1-2m co.

schist to o/c

Some of - cut - base

of - base

in tension zone

- no sample taken

because of low

sampled & analyzed

- some V sample zone

down str. to N side

main

- 100m down stream

to base of schist

1470m

- some pebble of C. on E
side

44

- base fall of thin W
in part of (1-3)

- KQ-93-56A - 120m

of SW to top of
of C. on side of
- on bench

275m E of road
347 @ 60° (good)

on strong mineral
concretion in
in part of bench top

285 / 82° (W) good on
sl. (ch. sch.)

N3-4m - wide - 100m

of schist zone (W - 10-15)

of ash veins (some)

~ 0.50 / 60° (good)

1455m sample @ minor py
+ diss. specks of galena
KQ-93-56B (high grading)
tetrah. on sample - 2% of b?
SP? CPV PV
sample site marked

- went ~130m W
across wash drainage
to next stream
same chert (at 14)
7m thick bed

cut of pale matrix
seen in former
contact area
py cut basic

veins - went ~200m
N down slope - no
o/c so cut back
to main str.
Cm chert
major fault along

1330m KQ-93-56c
~20-30m o/c
x/c
high
no
there
are

(coms of bend in str)
of hard siliceous?
pale py (4-5%) 45
cut by minor veins

(w minor cp
- also ^{some fine} py
along fractures
0.50-0.50 some ferritic
light gr carb
dash veins
o/c appears sil
1-20%
py

~100m ENE 1330m
~10m o/c in str (py)
mod. o/c don't dry siliceous
KQ-93-57A - some

pale over hard sil
py (carb-plate) a little
w minor ferritic specks

- contoured W 100-120m
E across drainage out
no o/c further
100m N down drainage
to grassy cross
(hook)

480m base of moraine
1270m base of moraine
57C 280°/87° N. face
2m wide vein
melanite
qz vein

→ 4-m zone
57B pos. in ~ EW 50° N.
Swarm of qz veins
(10+%) @ with
abundant specks of
fermatite + galena
in qz. buff-walk carb.

at Neuchâtel Grid corner
57C - 2m wide qz - sp. (nat.)
veins is on N side
of small (drace)
~ 6-7m N of 57B
- it might be N of
a fault or part of
the same system
it is not well exposed

Sample 19738 site
on king 46
- also v. sil. qz vein
material
→ 40cm qz
- all of it is 20-30
in area but vasil
intercepting area
Ca V. An?

1230m ~ 50m N down dry
stream to W
Sample site 19737
v. "hackly" sil. pale
qz + sil. qz. v.
2/1 5% qz veins?
- lichen + lichen covered

~ 25-25m N 1200m
heather + trees - small rusty
canyon
KQ-93-57D
Same py sil. qz all at
@ ~ 1-5% qz veins (rusty)
micro-qp texture of qz veins
in qz veins

~15-20m N #19736
- mal. & azur. status
on small fractures
& good cp & tenon
in qz veins

~25m N 1166m #19735
representative chips

~40m N 1150m top of
moraine end canyon
rusty o/c ~35m NE
- photo rusty o/c
of Mitchell zone

~40m E contouring slope
1140m
rusty siliceous py (2-5% diss)
pale grey alb. dense rtk.

@ $\frac{1}{2}$ - 1% of q. diss. cp (tiny veins)
KQ-93-57E (rusty)

crossed 2 ~~land~~ ^{scuffs} 1-5% of qz veins. (o/c)
~50m N 1100m KQ-93-57E
~5m before ser. py. rtk

57E - ~30ms of it
same py pale 47
grey sil. int. alt. rtk
@ minor cp & tenon
~1-5% of qz un? ??
rusty o/c

~15-20m
304°/75° poor
on sch.
qz ser py schist
no obvious fault
betw. sil. & ser.
rtks. ~

~30m NW 1050m
20m W of str.
~100m v. above it
pale py ser alb. rtk
JKR 802 38 site ^{changed sample}
~5% def. qz veins
KQ-93-57E
py ser schist. @ def
qz veins

284°/80° poor
on sch

* blocks of ser schist
 are breaking loose both
 E & W - it is
 v. unstable
 - Mitchell Zone is starting
 to collapse

~ 200 m NW to
 KQ-86-113 B
 940m

- ice ~ 12m below rock
 - dd site ~ 70m W

Camp 1350m (control 1350)

Summary

1) Most rocks too high alt. to
 determine original rock types, except
 in some chl. schist can see vol. br.
 & lapilli fragments.

2) Much dense pale grey hard sil?
 py (1-5%) altered rk. (sed. hornfels???)
 much contains ^{1-5%} qz (carb) veinlets @ po, terr, spl (gn)

3. Mitchell Zone is ser. py schist @ 10-15%
 deformed qz veinlets & below 3-5%

doesn't seem to be in fault contact @ site, up hill

4. Sericite schist & moraines are very unstable

S of Mitchell Glacier & Mitchell Zone 48

Sun. Aug. 1/93

1820m - started on ridge crest ^{Summ. nice day!}

~ 100m W of OR6-9 &
 KQ-86-69A, B - to check
 stratigraphy in fault
 block down hill to S

1809m ~ 30m S downhill

284°/18° (N) fair on
 clv. bedding

- some rusty sections
 top of ridge v. strange

clv. chl. vol. - polythin
 lap. frags. visible

downhill & then
 grey-grey bedded beds

1809m 284°/82° poor on clv in
 incamp. bed



- gradational contact v here

with sedimentary rocks below
vol. debris flows & "tuffs"
to sed. debris flows (minors)
pebbly c.g. arenites (some
pale alt. & rusty) (w line
concretions) grey & massive
slates (low down hill)

- went ~100+m S (1728m)
(below where crossed on
July 26th) - mainly
sed. c.g. & m.g. pebbly
arenites @ lesser slates
- some @ poly lithic &
Others @ qz & feld xH.

(similar to E side Sulphur
Gl. N of Brucejack Cr.)
some ^{units} are quite highly
cleaved - roots are similar to those

W of fault to N on ridge crest

- went WNW through sed. (sandy)
back to ridge crest 1792m
flat top ^(at base of Pre. P. of 1790)
fault & contact rel. (continued)

- poor rubble o/c to WNW

- 1752m - ~50-60m WNW down

N part of ridge in snow KQ-93-58A
mas. pale (pyc-2-4 & diss.) set. alt. arenites

- might have been c.g. S.S. (some qz)
- only ~1/2% qz veins (carb?) in o/c eyes
- photos - N side Mitchell
Valley

1777m - ~30m WNW ~30m

from end of ridge
~5m? slickenside dark
chloritic area @ ~1/2% dis.
& fract. cp & ~1% mag.

KQ-93-58B - could
be Sulphur's Gold Zone
crossing ridge

- zone is resistant & extends
about 25m N into snowfield
(1717m) - locally is a breccia

but could be a porph
@ ~1/2% Cu KQ-93-58C

- highly fractured ch.
o/c difficult to sample

- can see some ^{dark} chl. veins
- some malachite on fract. - dark
etc

- ~200+m NW down across
snowfield into upper slate

1622m KQ-93-59A - rel. unalt.

fairly good LC hb - feld ^{porph. mag. heavy} ^{minor} ^{minor}
qz veins + trap - some massive K.S. etc

alt. along fractures (-post or late mts)

- sl. Christmas Bay

- for ~ 30m E along edge of ice & snow similar porph. but more sh. & chl (w minor pt & tr cp)

- across snow gullie pale grey & sericite & pt (10%) (some 1-3cm pt veins)

1600m alt, rts. KQ-93-59B (crossed steep ~ NS fault?)

- cover for ~ 200-250m N moraine - top of grass small o/c serpysh & KQ-93-60C (1398m)

hard feldspathized? interest alt. rts (~1-2% py, tr cp?)

- ~ 20m N (~1396m) similar alt. rts but o/c hackly fract ~ 3% small qz veins & rts cp along fracture (+1-2% py)

KQ-93-60D

minor no Mn stain

- for ~ 120-140m? N down small hard mud gray scattered small o/c pale but w neg. copper

- 120m KQ-93-60E

same pale py (5-20%) 51

alt. rts. (tr cp?)

- ~ 50m N small o/c top of trees in heather 1259m KQ-93-60F

- same pale hard pt (3-4%) alt. rts (w minor cp)

- for ~ 50m? N down slope to 1230m (break in slope above lineament)

- scattered small o/c same pale py hard alt. rts @ ~ 2-4% py & minor cp in 3 o/c's

1230m KQ-93-60G ~ 20m S

of lin.

1210m lin ~ 070°/~50°N?

- no o/c (w N dip could be old slump scarp but no evidence of recent mts)

- small o/c's but can see minor (~1-3%??) qz vtr in area

~ 70-80m N down bench no o/c 1EBS m small o/c's porph. mntz ~ 2-3% in rts

0 - some qz veins & minor qz
but poor o/c

- ^{1000 NS} ~30m KQ-93-60H
qz veins azims of N, overth d/c
maroon syenite, low silica gr.?

- 1162m EW steep
another prominent lin
~15m N to sta

ORZ-22 ~1172
- top of knob

1600 ~1160m - fairly weathered o/c
~15m N KQ-93-60I

max syenite on alt. monz.

- cut by ~10-20% qz
veinlets (to ^{up} 1-2cm width)
mod. cp & py

- this LC has many qz veins

- grey o/c looks same to
Mitchell Zone ~50-200m

- photos ^{lower} & upper Mitchell
- little or no offset on this
linear as same rock types
on both sides

- o/c are weathered & fractured so
difficult to estimate Cu grade
(0.1-0.3% Cu??)

~20m E of sta.
046 / steep lin 52

"syenite" W
- ~2m E of linear

KQ-93-60J - med. grey
dense alt. rk @ ~1% py
& 1% cp? - in fault
contact @ "SV"

~40m N of sta
1138m N - ~30-40m L
drops to Mitchell
Zone

KQ-93-60K - fairly good LC
typical barren to ^{minor} 1/20 (Lithas)

LC neg grade 20-30cm maroon
^{qz veins} aplitic low-silica granite
dykes - cut monz. xenoliths
& qz veins - lichen-covered
o/c's need to be mapped
carefully

KQ-93-60L - ~4m E
monz.? cut by numerous
qz veins (>20% in o/c locally)
@ minor cp & py
- keeper mainly monz. cut by >20%
qz veins - LC monz. qz veins
& dark xenolith

- camp 1380m (control 147)

