

1976

896429

SHANNON

PACIFIC

WATERPROOF

Cruisers Transit Book

No. 340 GRANITE OK +

FISH

LAKE

920

PACIFIC
WATERPROOF

% W J Mc Millan

B C Dept of Mines

Parliament Bldgs

VICTORIA B.C.

Product of

DOMINION BLUEPRINT & REPROGRAPHICS LTD.

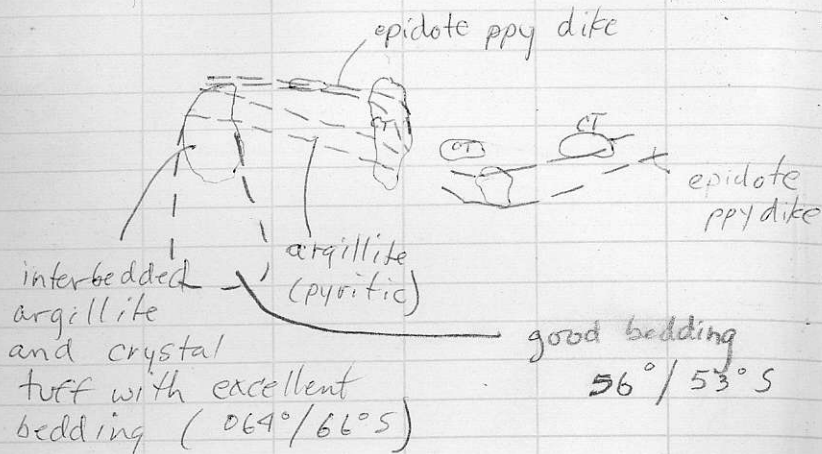
1533 WEST PENDER ST., VANCOUVER, B.C. CANADA V6G 2T1

2

~~21~~ JUNE 18/76

SUNNY & WARM

- going from Promontory Hills Lookout
south along power line



Fish Lake ← old maps
old maps
old locn maps

F. WHIST

access route?

Core - all in one bldg - not locked -

- most well marked -

~ 30000' of drilling

Granite Ck

timing?

July 1st start

Chita
Cheetah - high pass there

- snow filled - road

follows Beece Ck

John Murodos
Place
then
Beece Ck.

about 40-50 miles south of
 Lees - road X's Taseko + heads
 west - I stay on east side +
 go due S (road poor) - Continue
 + turn left
 4-6 to Fish Lk (2-3 mi)

$\frac{3}{4}$ mi west of Lk - campsite road
 - no good

$\frac{1}{2}$ mile fm Lk road - left (North)

Access 200-300' to core shed.

Wms Lk - look for road
 across tracks + ck

Clinton → Jn - turn left
 Hwy, Wms Lk

Past sawmills - up slope SW of town

- over ridge + drops into Fraser
 (Bella Coola rd) \approx 50 miles

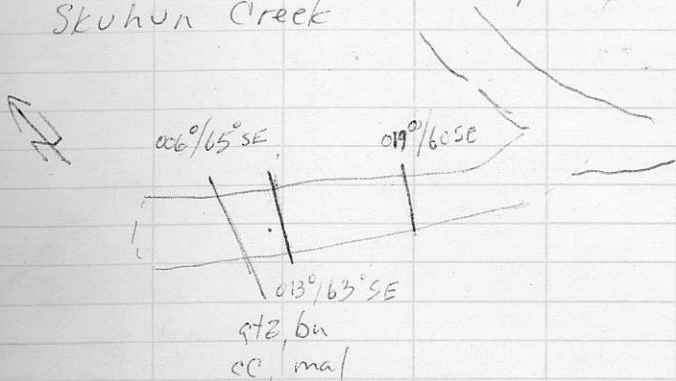
Lees Caverns (Geo Str, Motel) - across
 Chilcote R (Chilco Ranch)

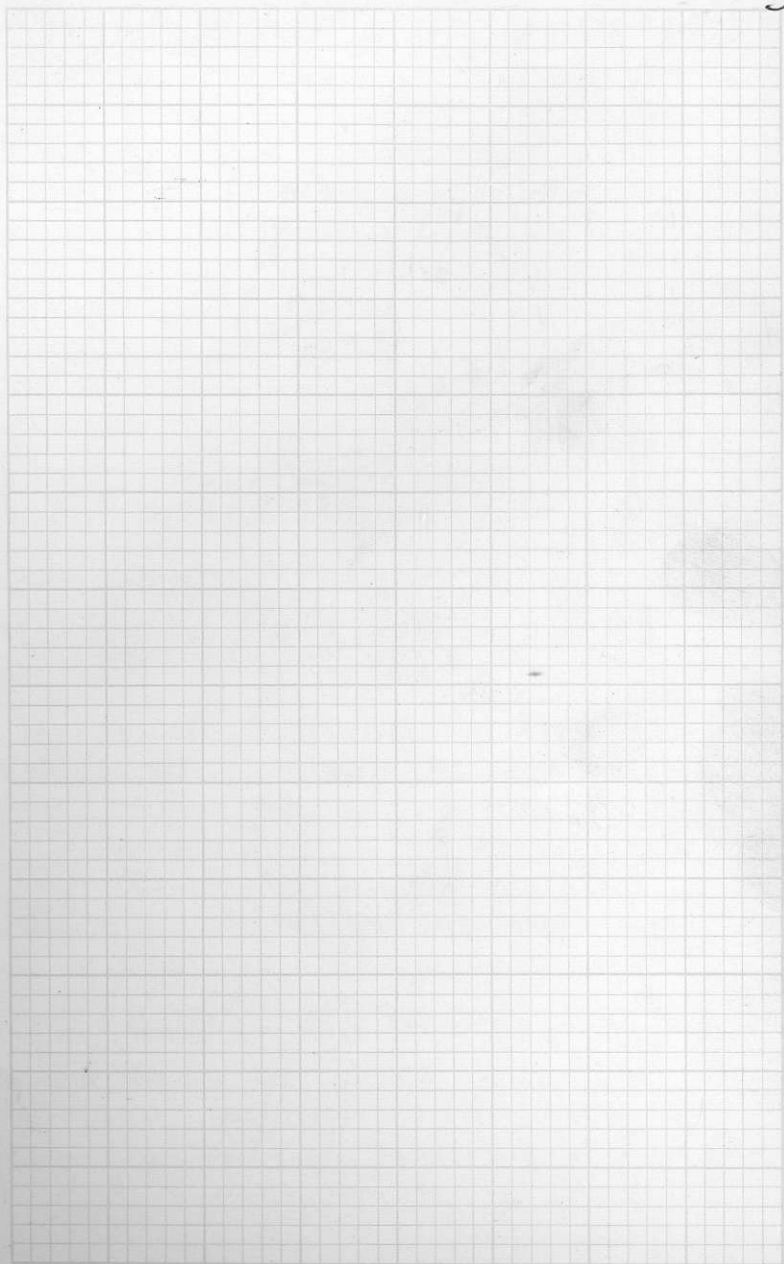
4

JUNE 19/76

0000

at the All Star Property on
Skuhun Creek



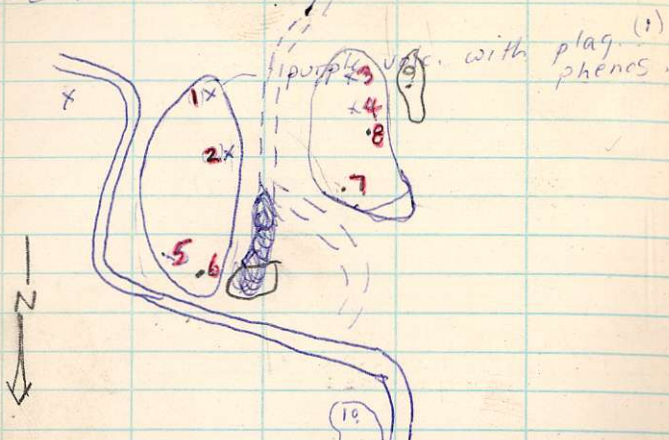


JUNE 20/76

ON PROMONTORY HILLS ROAD
1 MILE FROM TOP

SURVEY

ABOUT



- (2) more purple volc. with rounded plag grains. (plagioclase tuff?)
- contains prominent jointing $109^{\circ}/56^{\circ}S$
- (3) - extensively epidotized skarn type rock with specularite face $008^{\circ}/40^{\circ}E$
with many epidote veins dipping into face
- (4) - back into purple plagioclase tuff
epid vein $005^{\circ}/64^{\circ}W$
or ppv lava
- (5) ppe plag. tuff or ppv lava with altered epidote
qtz zones having specularite present
- epidote veins running $116^{\circ}/67^{\circ}W$
|| to prominent jointing, but zones with specularite seem to be irregular.

(6) Apl tuff or ppy lava

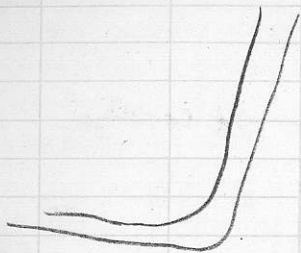
(7) lined grained purple volc.

(8) gr. dyke?

(9) pple lapilli tuff 176°/56° E face
volcanoclastic
amygdules?

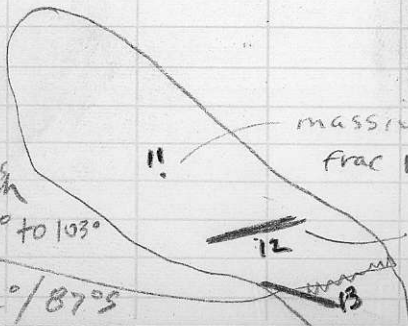
(10) green ppy volc (plagioclase + biotite
epidote specularite veins
112°/61° S^w

JUNE 20/76



20(d)

epidote vein $034^{\circ}/57^{\circ} S$
 slickensides 151° plunging 48°
 epidote vein $063^{\circ}/29^{\circ} N$



massive pple volcanics
 frac $147^{\circ}/75^{\circ} E$

movement was
 north
 slick - 49° to 103°

face $032^{\circ}/87^{\circ} S$

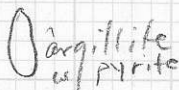
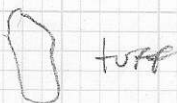
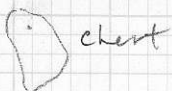
vein with Qtz
 spec. mag.
 $043^{\circ}/66^{\circ} N$

JUNE 20/76

9

where we talked and located ourselves

*



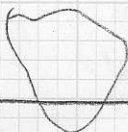
bedding $036^{\circ}/85N$

frac $129^{\circ}/77N$
 $036^{\circ}/78N$



tuff

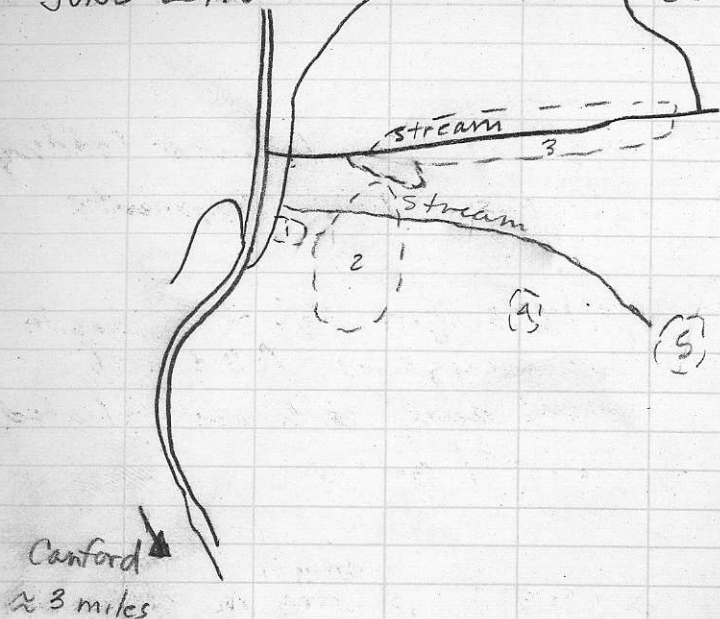
epidotized



JUNE 22/76

road

SUNNY



76-KS-

(11) assorted sed. black shale, sandstone?
breccia and lapilli tuff?
bedding? $040^{\circ}/21^{\circ} S$

(12) $118^{\circ}/84^{\circ} S$ is orientation of prominent planes in basalt. Outcrop is mostly basalt and sort of a breccia (probably caused by extensive qtz veining throughout the o/c)

(3) continuation of basalt + breccia

(14) $112^{\circ}/21^{\circ}S$? is orientation of bedding in sst. mostly lithic fragments

(15) $044^{\circ}/6^{\circ}S$ jointing in andesite
- has amygdales filled with chalcedony which are foliated
 $025^{\circ}/84^{\circ}NW$

(16) $035^{\circ}/9^{\circ}S$ ^(bedding?) jointing in spheroidal weathering andesite

(17) on big bluff, more of similar texture andesite

(18) $069^{\circ}/49^{\circ}SE$ is excellent bedding in sst.

76-KS-19

(19) back into volcanics, andesite?

JULY 9/76

sunny

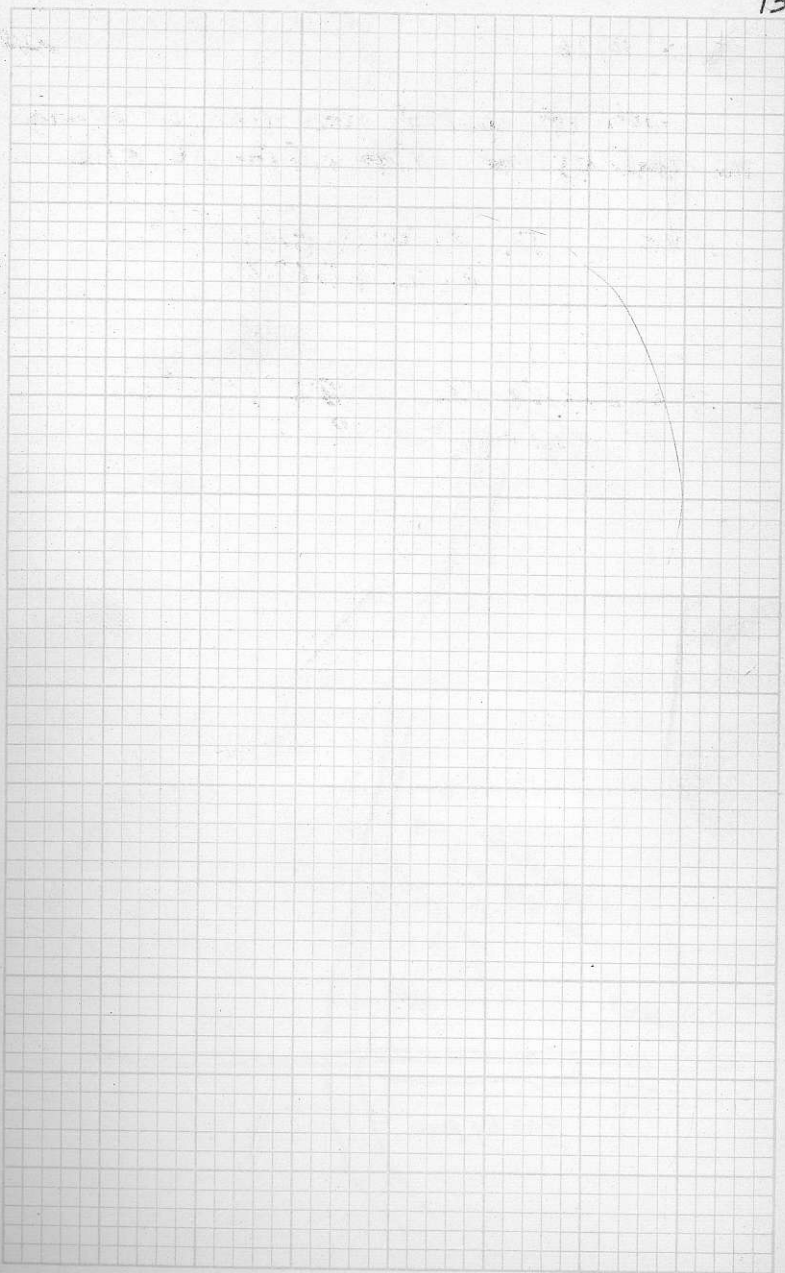
- south of Quintana Camp along
the banks of Granite Creek

- frac. ? in altered silicite
202°/81° E

76-WJ-1

- slickenside face 182°/57° W
plunging 54° S

4)

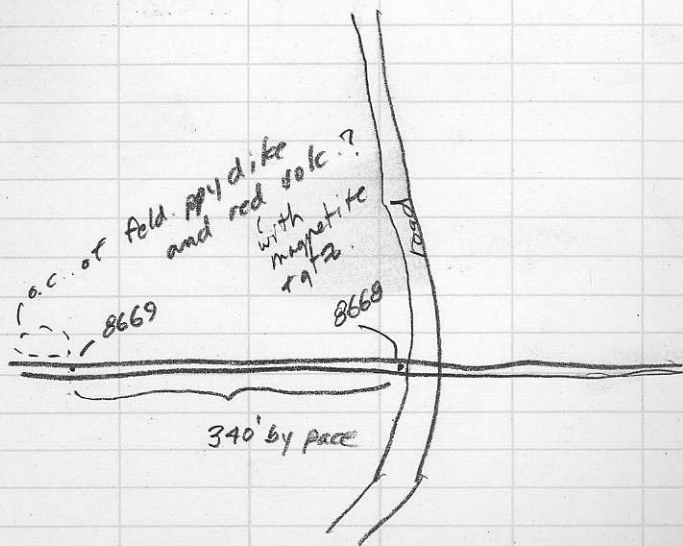


14

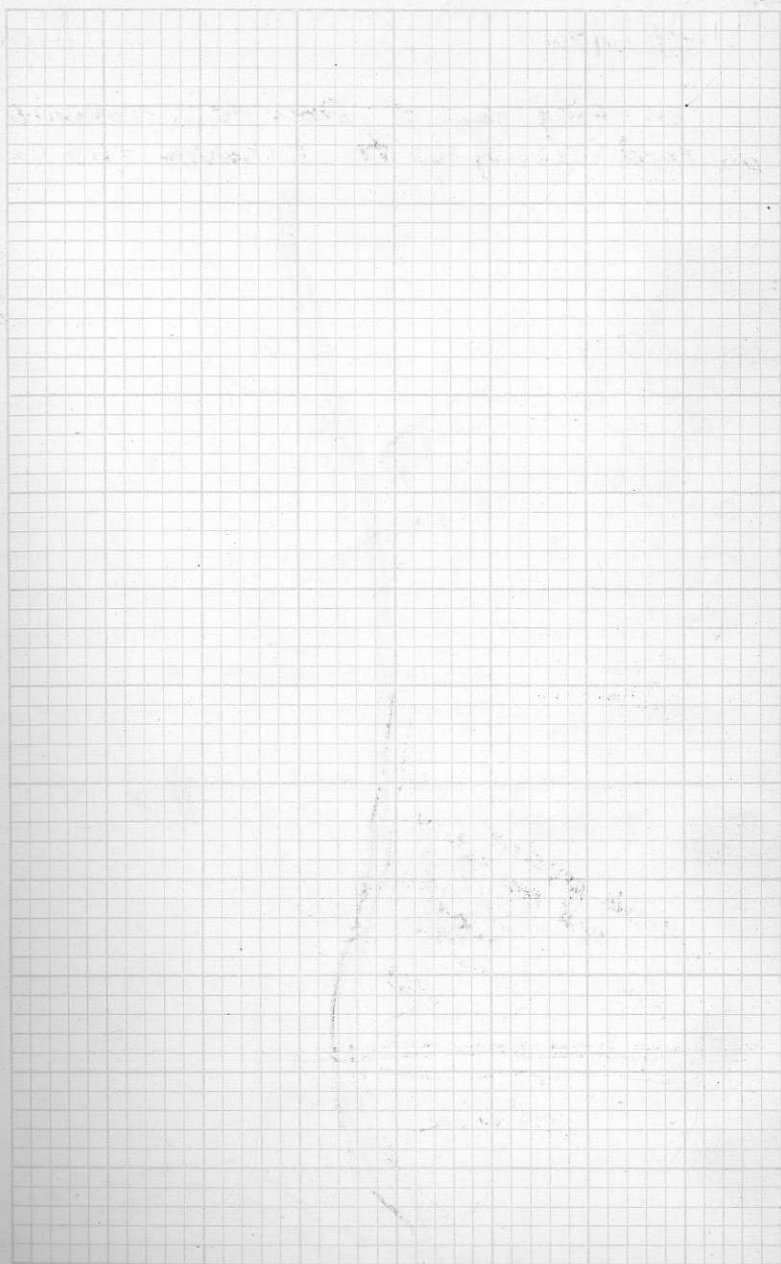
JULY 10/76

SUNNY

- working east of Granite Cr. camp
on road going up to Mohawk shawing



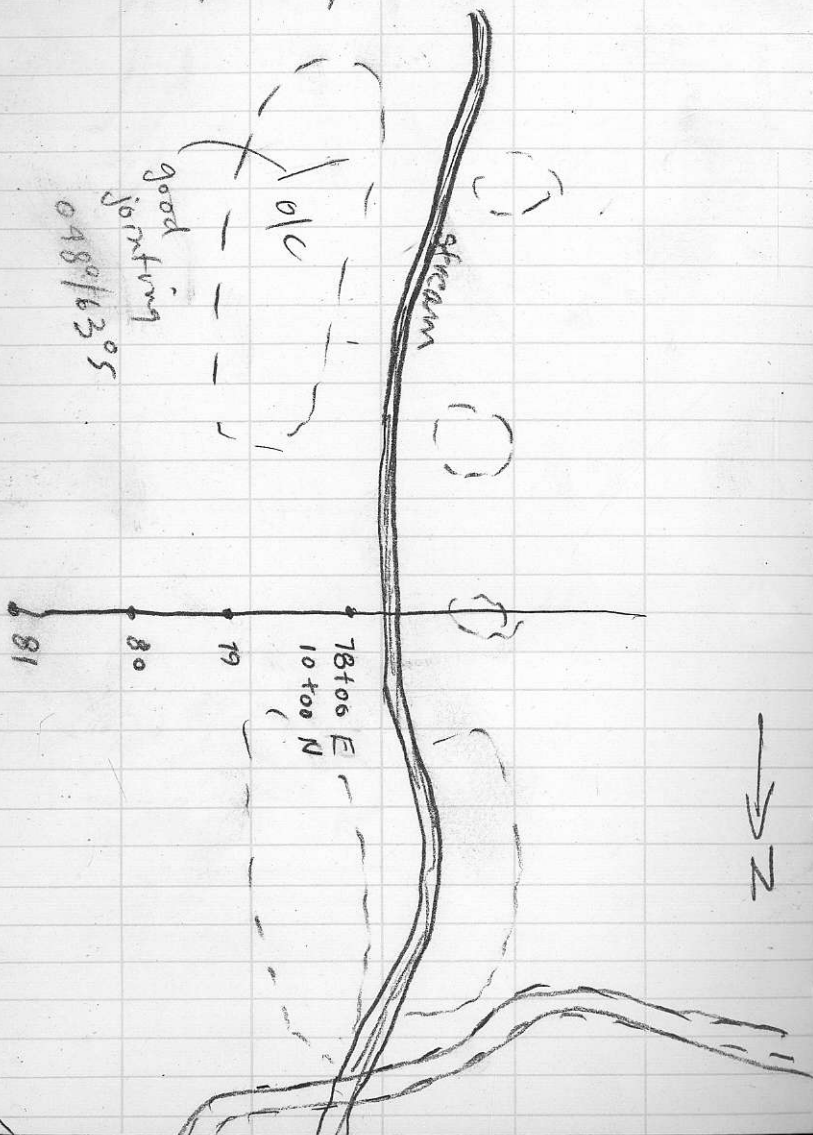
15

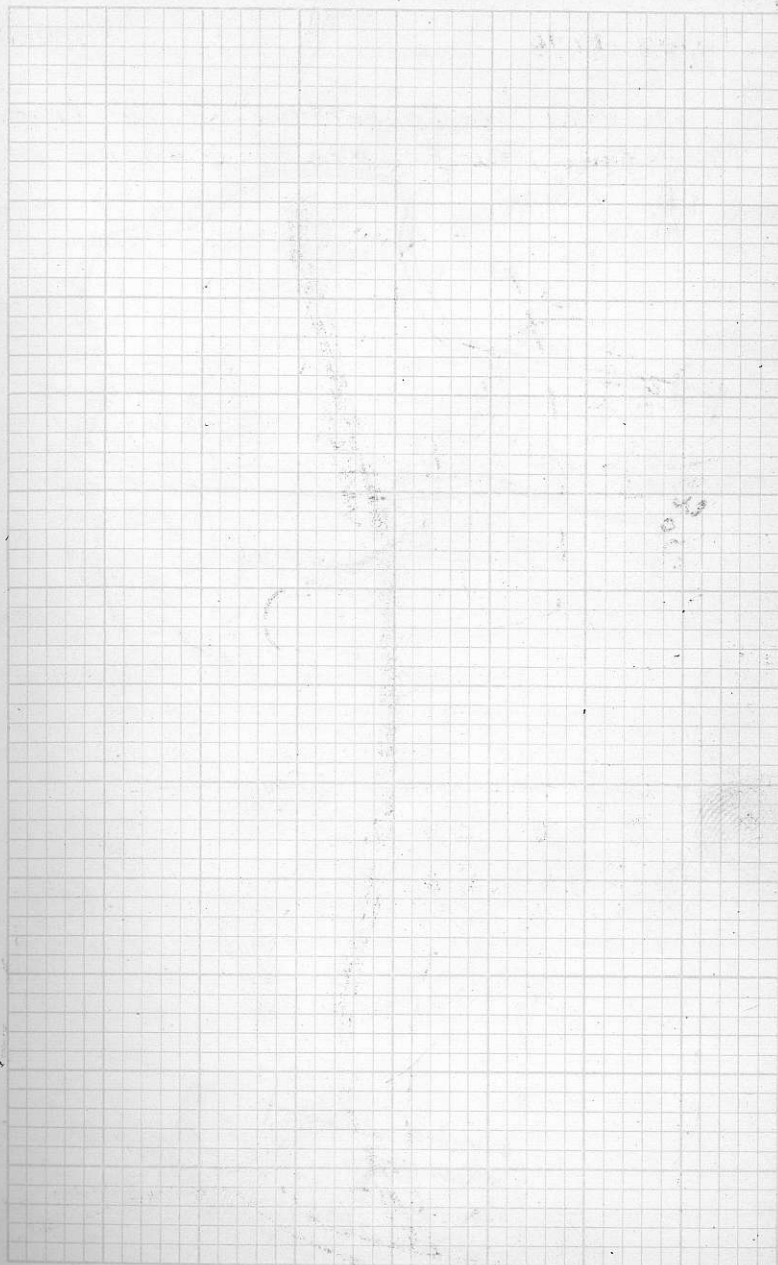


JULY 14/76

JUNNY

- on road going east from Granite
 cr camp along Tascko river.





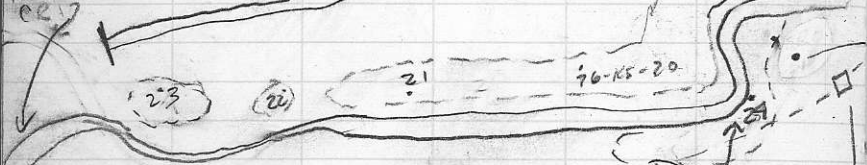
JULY 12/76

working at Rowbottom Cr. a tributary
of Granite Cr. about 2 miles south
of camp

Rowbottom
Cr.

ROAD

OVERCAST

to
camp

21

26-25-20

23

22

24

--- cut line

J 129°/32° N

N

claim

post

Taseko³ 5

No 2 Post

EASTERN

1500

LOCATED 7/1/62

BY L.J.

RUSSELL

bunch of
 other posts
 in area
 Initial 369611
 " " 369612

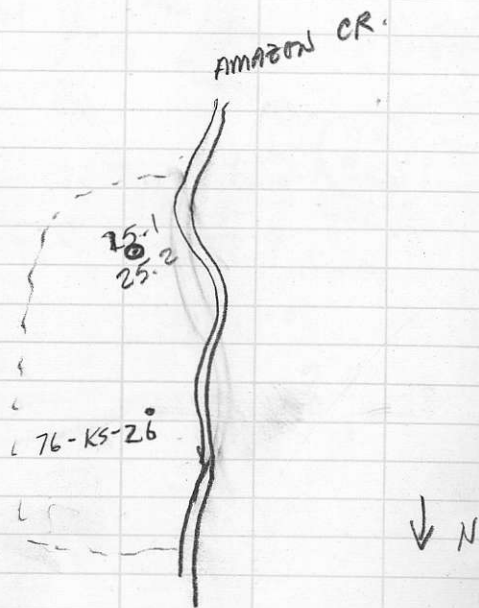
main orientation of jointing in field. PP4
- the amount of matrix on the
PP4 varies considerably from
about 75% to 25% matrix.

SRO
518survey
tag

JULY 14/76

SUNNY

- WORKING IN AMAZON CR. ABOUT 2
MILES WEST OF CAMP.



25- purple spherulitic volc. very fine
grained with prominent jointing
 $136^{\circ}/33^{\circ}S$. This jointing is \parallel to
shear zones which badly break the
rock in places.

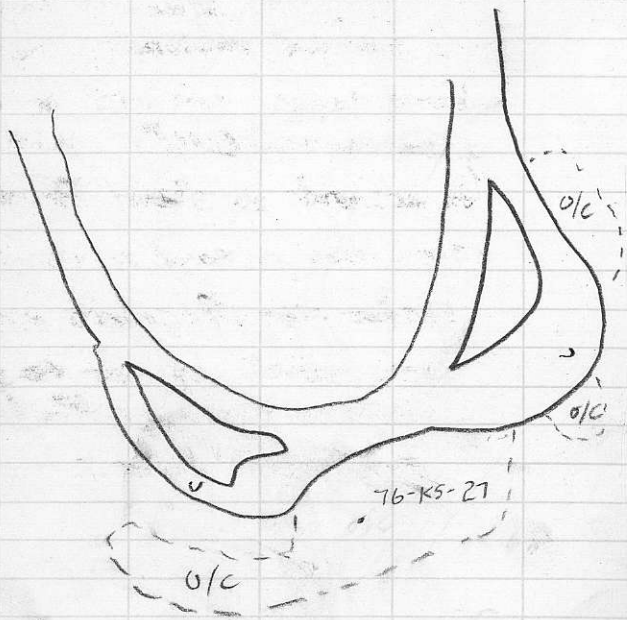
26- purple amygdaloidal fine grained
volc. with prominent jointing at
 $034^{\circ}/76^{\circ}S$ and $110^{\circ}/29^{\circ}N$.

← The latter jointing is parallel to shear
zones that appear to be chloritized

JULY 14/76

STILL SUNNY

- on the Taseko river at a sharp bend about 1/4 mile west of Powell Creek.



- rock is purple, usually medium grained, with many rock fragments
- bedding $105^{\circ}/32^{\circ}$ N (approx.)

- all the o/c appears to be a sequence of bedded volcanic sandstones occurring with "sheared" layers in a banded fashion. These sheared layers are rich in a soft green mineral (chl.?) which seems to account for their friability.
- There also is some areas with boulder size fragments and other areas which appear to be plain volcanic with little pyroclastic debris.

29

JULY 18/76

OVERCAST-SUNNY

- at Quintana drill shack at Fish Lk

Q 79-A

	↓ to core	MINERALOGY OF VEIN	AGE REL.
60'-96'	5°	pyrite, calcite, chl. qtz.	
	5°	chlorite, pyrite, cal.	
	60°	chl., py. cal.	
	80°	cal. chl.	
96-131'	20°+70°	gypsum, chl	youngest
	45°	carbonate, Fe-oxide ①	② is cut by ①
	55°	pyrite chl ②	
131-164'	5°	pt, carb, qtz, chl	
	60°	chl, carb, pt	
164-197	5-20°	pyrite, carb, chl qtz.	
	60-70°	carb, py, chl qtz. ochreous hem.	

MINERALIZATION WIDTH
- PER 10'

COMMENTS

25

- xⁿtal vuggy infilling
- very pyritic

sheared fracture

sheared frac.

Some pyrite was seen
on these fractures

1/4"

late stage vein

1/4"

carb. is sometimes vuggy

1/4"

40

- sometimes vuggy
 - very pyritic
 - minor pyrite
- } some cal. is present but most carb. doesn't fizz in HCl

40

1/8"

- sometimes vuggy
- very pyritic

minor pyrite

slick. 60° C.A.

INTERVAL	to core	MINERALOGY	AGE RELATIONS
197-228	5-10°	py, chl., carb, qtz	
	~60°	chl, carb, py, qtz	
228-259	5-10°	as before	
	~60°	chl, carb, py, qtz some sericite	
259-290	5-10°	chl, py, qtz, carb. graphite?	
	60°	chl, py, qtz, carb	
290-322	0-5°	qtz, sericite, pyrite, carb, chalc.	
	15-20°	py, qtz, chalc., chl.	
	60°	py, qtz, chl, sec. biot	
322-352	0-20°	qtz, py, carb?, chalc., chl	
	45-60°	qtz, chl, carb?, chalc., py	
352-384	0-10°	as before	
	50-60°	pyrite veins	
	50-60°	Kaolized, graphitic, py, chl	
384-417	10°	moly., chalc., pyrite, koal.	
	50°-60°	mostly kaolinite with some chl. and pyrite	

PER 10'

- again, may be vuggy and quite pyritic
- some black mineral (sec. biot. pyrite)

- not much pyrite qtz is minor

30

- slicks. 30° to C.A.

- much more pyrite on this set than before

25

 $\frac{1}{8}$ - $\frac{1}{2}$ "

- extensive pink carb. banded with graphite and occurring with much pyrite

- slicks. at 0° + 90° to C.A.

- minor trac. with minor py

20

- extensive sericite coating on qtz

- slicks at 20° + 0° to C.A.

25

- much pyrite

 $\frac{1}{4}$ "

minor carb.

much less chl. and more kaolinitization now

10

- these trac. offset late-stage qtz veins at about 45° to C.A.

chl. is almost gone

INTERVAL	D.T.O. C.A.	MINERALOGY	AGE
417-446	30° 30° 0°	pyrite, chalc. kaol. with black sooty stuff moly, kaol veins also some py. qtz. pink carb. veins of same orient.	
446-476	0-20° 70-50°	py, chalc, kaol, sericite as above	
476-506.5	5-15° 30-40°	py, chalc, moly, qtz, carb, cal pyrite, chl, kaol, qtz	
506.5-536	5-15° 80°-70° ~60°	py, chalc, ^{graph?} kaol, qtz, carb carb (2) carb, chl, pyrite	① is older than ②
536-567	0°+40° 30-50° 60-80°	carb, chl, py, qtz qtz, carb, py, chalc carb.	late stage cross-cutting veins
567-602	30° ~30°+0° -0°-15° varied	hematite py, chl, graphite carb, graph, chl, qtz carb	late stage
602-675	10-30° 70° 10°	carb, qtz, py, graph. gypsum carb, pyrite, graph	
675-730	10-20 10-40 varied	qtz, py, chalc, moly, chl, ser. biot gyp. py py, qtz, some gypsum	

orient.

20

$\frac{1}{8}$ - $\frac{1}{4}$ "

$\frac{1}{4}$ "

extensive kaol. and sericite development

$\frac{1}{8}$ - $\frac{3}{8}$ "

both sets of veins have some crystals of qtz and pyrite.

chlorite is returning and sericite is receding

15

$\frac{1}{8}$ - < 1 "

there is more carb. ^{+ qtz} developed towards the end of the section and it forms bands with graphite? layers several inches thick.

$\frac{1}{8}$ " - 1"

- slicks at 30° to C.A.

- large veins with gray-black banding

5-10

$\frac{1}{8}$ "

slicks at 60° + 0° to C.A.
little pyrite

5

$\frac{1}{8}$ - $\frac{3}{8}$ "

$\frac{1}{16}$ "

$\frac{1}{8}$ - $\frac{1}{4}$ "

- vuggy gypsum
- minor pyrite

to 1"

30

T.C.A.

MINERALOGY

AGE REL.

730-802 20-45°

chl. py, carb?, sec. biot.

varied

gypsum ± chl. py. chalco. graph.

45°

py. qtz

0-10°

qtz, carb, py, chalco

seem to
be late stage

no/10'

WIDTH

COMMENTS

31

16 to $\frac{1}{4}$ "

JULY 19/76

HOLE 73-15

SUNNY

MIN. PER WIDTH
10'

Comments

INTERVAL	TO C.A.	MINERALOGY	AGE	MIN. PER WIDTH	Comments
50-112.5	50° outward 10-20° ~30°	mag. hem, py, chalc ① cal, py, chl, chalc, qtz ② gyp, carb, cal	② is younger than ①	~1/4"	some ugly x'tals
112-170	10° and 50-70° 30° varied	mag. hem, py, chalc, cal, qtz qtz, py, carb gypsum with all other min.	carb. is on edges of veins	20 up to 3/8" up to 1/2"	some ugly qtz with pyrite boxwork
170-225	45° ~20-25° 40-50° ~10° varied	py, chalc, carb, graph ① calcite, carb. ③ qtz, py, carb, moly, mag, hem, py, chalc, qtz late stage gypsum	carb. is in center of vein	4 1"	The rock is also flooded in places with extensive carbonate, qtz, etc.
225-275	16-20° 0-10°	py, chl, chalc, carb more of the above graphite, py shears			→ at beginning of section only no more chl. slicks at 20° to C.A.
275-333	0-30° ~10° to 20° ~20° varied	qtz, py etc. veins ① carb. cal ② mag, hem, py gypsum	② cuts ① cut by ①	1/8 to 1"	still have pervasive carbonization of rock.
333-389	30-40° ~20° varied ~10° 10-20°	qtz, py etc ① mag, hem etc ② carb ③ carb ④ graph carb py chalc	① cuts ② ① cuts ③ ④ cuts all others	1/8 to 1/2"	- mag hem veins change to pyrite etc as they follow them around a piece of core.
389-442	0-20° ~10° 10-20°	① qtz, minor carb, py, chalc ② hem, mag and other minor elements graphitic shears	moly qtz on outside of others to 2/8" ① cuts ②	30	slicks at 15° to C.A.
442-495	10° 15° varied	① py, qtz, carb, chalc, some kaol. ② carb. some steep graphitic, py shears	cross-cuts ①		- some minor mag-hem remaining still. kaolinite now present

INTERVAL	§ TO C.A.	MINERALOGY	AGE
495-550	10°	qtz, py, chalco	
	10°	carb	
	50°	graphitic, chloritic? shear	late stage
550-601	10°	① qtz, py	
	20°	② chalco	
	40°	③ late stage barren qtz vein	
	45°	graphitic shear (4)	④ cuts ②
		END OF HOLE	
		START OF HOLE 73-13	
87-143	40°	① qtz, pyrite	② cuts ①
	50°	② gyp, graphite	
	50°	chalco, qtz	
143-198	10-20° & 80°	① qtz, py, chalco	② cuts ①
	20°	② carb	
	40°	gyp, graph shear	
198-256	10°	gyp, graph, cal. shear	
	70°	calcite	
256-310	15°	py, qtz, chalco	
	30-50°	common orientation of cal, carb veins	up to 1/2" thick
310-362	70°	① carb	① cuts ②
	20°	② graph, cal, gyp, carb shears	
	10°	py, qtz, chalco, some hem	
	0°	hem, mag	
362-397	45°	① qtz, pyrite at least 3 generations	
	20°	② carb at least two generations	② cuts ①
	varied	fresh gyp fract. coatings	
		END OF HOLE	

		to 1"	new kind of ppy with qtz eyes. Seems to be better grade Cu. - some hem on shears
		1/8 to 1/2"	
		1/4"	
		10	to 1/4" - more than one generation of qtz py veins as there was ① cutting ② slicks at 30°
		10	to 1/2" - some brecciation in the early part of the hole with calcite matrix - slicks at 80° to C.A.
		0	- some minor pyrite - slicks at 25° to C.A.
		1	
		up to 1/2" thick	- sand, dusky pink carb.
		1/8-1/4"	
		2	
		5	to 3/8" - very complicated fracture crosscutting relations - some oolitic hematite in qtz py. veins

INTERVAL	TOC.A	MINERALOGY	AGE
183-228	35°	① qtz, py, chalco, ocherous hem.	① cuts ②
	45°	② qtz, pyrite, carb	
	50°	③ chl., carb	② cuts ③
228-274	35°	① as above ①	
	20°	qtz, py, chalco	at least 2 ages
	50°	chl, carb	
	80°	carb, cal	
274-317	5°	py, qtz, carb, graphite?	
	50°	hem, chl, carb some late stage gyp.	
317-361	50°	qtz, chl, chalco, py, earthy carbonate	
	50°	① qtz py	① cuts ②
	0°	② chl, py, chalco, oche. hem	
361-400	5°	ocherous hem, mag, qtz, py, chalco	
	40°	hem, mag, chl	
	10°	chalco, py, qtz, chl	
400-441	15°	hem, chl, qtz	
	20°	py, chalco, qtz	
441-509	40°	hem, py, chl, qtz	
	40°	① py, chalco, qtz	
	10°	py, chalco, qtz	
	70°	② carb (vuggy)	② cuts ①
	varied	late stage gypsum	

END OF HOLE

MIN FRAC PER 10'	WATH	COMMENTS
10	$\frac{1}{16}$ to $\frac{1}{4}$ "	carb. is minor
2		- some pervasive sericite? alt. in section
		- vuggy carb. with cal layer on top
2	$\frac{1}{2}$ " to $\frac{1}{2}$ "	- some are vuggy
		- some vuggy qtz and carb
4	to $\frac{1}{4}$ "	
		- veins cuts through biot. alteration
2		- some mag. is left which hasn't been altered to hematite
8		changes to qtz, bornite, magnetite in pieces
	$\frac{1}{4}$ "	qtz vein with disseminated chalco and vuggy center with later chalco & py in middle

JULY 20/76

THUNDERSTORM

HOLE 73-10

INTERVAL	TO CA	MINERALOGY	AGE
68-133	15°	carb	
	10°	py, chalco, qtz	
	5°	graphite shear	
133-204	0°	(1) qtz, py, hem (with corus)	(4) cuts (3)
	40°	(2) qtz, py, chalco	cuts (2)
	50°	(3) carb	cuts (1)
	30°	(4) carb, graph shear	4 → 3 → 2 → 1
204-263	5°	graphite, carb. shear	
	40°	(1) carb.	(1) cuts (2)
	15°	qtz, py, chalco, moly	
	10°	(2) pyrite, black oxides?	
263-334	45°	qtz, chl, py, hem, mag, chalco	
	0°	carb, cal.	
	10°	qtz, py, moly, chalco	
334-380	45°	(3) py, chalco, chlorite	(2) cuts (3)
	30°	(2) carb, chalco	(1) cuts (2)
	15°	(1) chl, pyrite, carb shear	
380-443	15°	(2) qtz, py, chalco, chl	(2) cuts (1)
	25°	(1) carb.	
	20°	qtz, sericite, chl, ^{py} graphite shears	
	varied	q.p. esp. on shears	
443-499	45°	(1) qtz, py	
	varied	late stage pink q.p.	(2) cuts (3)
	20°	(3) py, chalco, chl, carb shears	
	50°	(4) carb	(4) cuts (2)
499-555	0°	(1) mag, hem, qtz	(1) deflects
	40°	(2) py, chl, same mag qtz	(2)
	varied	late stage pink q.p. sum	
555-612	80°	(1) carb	(1) cuts (2)
	25°	(2) qtz, mag, py	
	varied	q.p. sum	late stage

NO. FRAC WIDTH COMMENTS
MIN. PER 10'

5

$\frac{1}{4}$ "

core is highly weathered with development of malachite

upto 1"

approx $\frac{1}{8}$ "

3

- excellent cross-cutting relations
- some dolomite? x'tals with cal. coating
- slicks. at 60°
- carb. is very hard (about 5) and is banded (siliceous travertine)

$\frac{3}{4}$ "

- uss94 dolomite? with some cal. coating

- has $\frac{3}{8}$ " chl. haloe

10

$\frac{1}{8}$ "

- has 5 rot. haloe about $\frac{1}{4}$ " wide

15

15

to $\frac{1}{2}$ "

40

73-10

INTERVAL

TOCA.

MINERALOGY

AGE

742-761

15°

qtz, chalc.

55°

qtz, carb, py, chalc.

varied

qyp. pink uss qy

837-857

50°

py, chalc, carb, qtz

70°

carb

varied

qyp sum

911-931

45°

qtz, py, chalc

varied

qy sum late stage

1004-1022

5°

① chalc, py, chl

① cuts ②

30°

② py, qtz, chalc

40°

③ qtz feldspar dyke

② cuts ③

varied

qyp. late stage

1151-1168

15°

① chalc, py, qtz, carb

10°

graphic shears

25°

① mag? horn (ochrous) qtz

① cuts ②

1224-1243

15°

① qtz, py, chalc

60°

② carb

② cuts ①

1333-1351

20°

① qtz py chalc.

① cuts ②

40°

② py qtz dark mineral (mag?)

30°

graphite sericite shears

5°

graphite, qyp shear

1442-1429

60°

carb

20°

qtz, py, chalc.

0°

graph, kaol. shear zones

NO. OF MIN.
FRAC. PER 10'

WIDTH

COMMENTS

71

12

to 1"

$\frac{1}{2}$ "

to $\frac{1}{8}$ "

to $\frac{1}{4}$ "

8

$\frac{1}{4}$ "

16

$\frac{1}{4}$ "

to $\frac{3}{8}$ "

11

4

$\frac{3}{8}$ "

20

$\frac{1}{4}$ "
stringers

5

$\frac{1}{8}$ "

Some hematite was seen in
the qtz, chalco. veins

- late stage juggy gypsum often
follows paths of other veins
along the edges

- dyke appears to be aplite

The stringers of the py, qtz, dark oxide
are common and usually seem to
be older than the qtz py crosscuttings
- some moly. in qtz veins
- kaolinization seems to be pervasive

- the qtz. vein anastomosing character

INTERVAL	Δ TO C.A.	MINERALOGY	AGE
70-159	20°	① qtz py mag chalco chl	
	25°	② epidote chlorite py	
159-219	25°	chl-py ± och hem	
	20°	qtz w. central py, cpy zone	
	25°	py-cpy-qtz-chl (rusty)	
	80°	mag, some quartz	
	05°	cpy - chl fr	
	60°	epidote fr	
	10°	vuggy qtz vein	
219-282	15°	vuggy carb. vein	
	30°	py chalco qtz sericite ± hem	
	10°	carb, chl., py, biot ± mag	
	5°	chalco frac.	
282-343	20°	chalco, py, qtz, carb, chl, biot ± hem	
	20°	carb	
	30°	① qtz py	② cuts ①
	60°	② carb	
343-387	60°	③ graphite carb shear	③ cuts ①
	0°	qtz, py, chl, biot, carb	
	5°	① qtz, chl, mostly chalco.	② cuts ①
	5°	② qtz chl, mostly py	
	80°	③ carb mag qtz	③ cuts ④
	10°	④ chalco, chl, mag	

NO. OF FRAS. WIDTH
FRAS. PER 10'

COMMENTS

The epidote fracture appears to
be younger than ①

2

$\frac{1}{2}$ "

15

$\frac{1}{8}$ "

$\frac{1}{2}$ "

15

± ochreous hematite

$\frac{3}{8}$ "

AA

HOLE 73-1 FSH CK.

JULY 21/76

OVERCAST

INTERVAL	§ TOC.A.	MINERALOGY	AGE
166-227	20°	① qtz py chl carb ± hem	
	5°	carb, graph center	
	0°	chalco, frac.	
	0°	② qtz py chalco	① cuts ②
227-295	35°	① py qtz chalco	
	35°	② carb	② cuts ①
	50°	biot qtz carb py chl	
	15°	③ graphite carb shears	③ cuts ②
295-357	5°	muddy calcareous fault	
	50°	carb. with calcite coating	
	20°	mag, carb, chl shear	
357-420	40°	① carb cal vuggy	① cuts ②
	10°	② py, chl, ser, chalco, biot, qtz, carb ± hem	
	100°	qtz mag ± hem	
	75°	qyp	
	5°	chalco frac.	
420-475	0°	① qtz py chalco	① cuts ③
	15°	② chalco, chl, biot fracture	
	10°	③ late carb, cal, on vein of py, qtz, hem, chl	
475-543	0°	qtz py chalco	
	5°	graph carb. shears	
	5°	qtz chalco chl frac	
	5°	① qtz py	
543-600	35°	① py vein	② cuts ①
	70°	③ qyp pink	③ cuts ②

NO. OF MIN WIDTH COMMENTS
FRAX. PER 10'

3	$\frac{1}{4}$ "	- some graphite carb shears at low angles
10	$\frac{1}{2}$ "	- some ochreous hem. and on glt py. Frac. at 45°
0	$\frac{1}{2}$ "	
30	$\frac{1}{4}$ "	
	$\frac{1}{4}$ "	
	$\frac{1}{4}$ "	juggy Qtz with some kaolinite along edges of Uep - sometimes have chl. sericite haloes
	$\frac{1}{8}$ "	
	to 1"	- with some sericite haloes
30		
8	$\frac{3}{8}$ "	juggy Qtz
	$\frac{1}{8}$ "	- with $\frac{1}{2}$ " sericite haloes
	$\frac{1}{4}$ "	- some clear gyp. veins also

46

FISH LK

JULY 21/76

CLOUDY

73-11

INTERVAL	TO CA	MINERALOGY	AGE
137-192	10°	qtz py chalco	
	20°	graphite, carb shear	
	varied	late-stage carb stringers	
192-290	80°	calcite py	
	10°	① py qtz	① cuts ②
	50°	② carb.	
	50°	mag hem py chlorite	
	5°	graphite py chalco sericite qtz chl	
290-295	10°	qtz, chl, chalco, py ± biot	
	30°	orange carb.	
295-395	25°	qtz, py some hem	
	45°	mag, py, qtz, chl	
	30°	chalco. frac.	
395-454	5°	mag, chl, py	
	35°	chalco chl frac	
	10°	py chl with sericite haloe	
454-506	5°	mag sericite chl	
	35°	chalco, chl frac	
	45°	py, qtz, chalco, chl, hem	
506-560	150°	chalco, biot, chl	
	50°	gyp.	
	45°	chalco, py, qtz, hem, chl	
	10°	edge mag → qtz → chl center	
560-595	20°	① qtz mag	② cuts ①
	80°	② gypsium	
	30°	③ chl biot py	② cuts ③
	10°	graph chl sericite shear	
690-708	35°	chalco, qtz, specularite	
	5°	gyp graphite fault	

MIN. FRAC DEP 10'	WIDTH	COMMENTS
5		with sericite halos $\frac{1}{2}$ wide
	$\frac{1}{4}$ "	
19	$\frac{1}{2}$ "	- some ocherous hem. scattered throughout veins.
11	$\frac{1}{2}$ "	- vein has sericite halos
9		
20		- some scattered biotite
	$\frac{1}{4}$ "	
15		- some good sericite halos on qtz chl veins
		→ small vein $\frac{1}{4}$ " with chl. containing qtz & magnetite
7	$\frac{1}{4}$ "	
	$\frac{1}{8}$ "	
27		- slicks. at 20° to C.A. - some good development of sericite envelopes on qtz veins

48

73-11

INTERVAL	X TO C.A.	MINERALOGY	AGE
745-763	20°	gypsum carb. py. shear	
	0°	sericite, chl., py, qtz	
858-875	45°	gyp	
	10°	qtz py at least 3 ages	
	40°	chl biot sericite py	
929-943	60°	① qtz py	② cuts ①
	30°	② py frac.	③ out ①
	80°	③ gypsum	
	25°	chl py chalco qtz	
985-1006	20°	① qtz vein	① cuts ②
	25°	② qtz py	
	30°	carb graph shear	
	30°	qtz chl. ; chalco	
		as above	
1040-1059			
1190-1202	15°	gypsum 1/4" thick	
	30°	qtz py	
	10°	chl py	

MIN FRAC PER 10'	WIDTH	COMMENTS
2	$\frac{1}{4}$ "	<ul style="list-style-type: none"> - some magnetite present - slicks. at 45° to C.A.
	$\frac{1}{4}$ "	- some ochreous hematite on shears
	$\frac{1}{8}$ "	<ul style="list-style-type: none"> - ochreous lam on fractures - sericite envelope on qtz veins
7	$\frac{1}{4}$ "	<ul style="list-style-type: none"> slicks. at 50° to C.A. - some banded agate veins at 15° about $\frac{3}{8}$" thick
7	$\frac{3}{8}$ "	<ul style="list-style-type: none"> - some scattered carb. - some sphalerite in qtz veins - some sericite envelopes on qtz veins

50

FISH LAKE

COLD BUT

JULY 22/76

73-6

SUNNY

INTERVAL 2 TO C.A. MINERALOGY

AGE

73-6 END OF HOLE

664-762 late stage post mineral dike

762-792 70° qtz py chalco ± hem

10° chl carb ± hem shears

80° carb sphalerite py

25° chalco b. of py sericite chl

NO. FEAC WIDTH COMMENTS
PER 10'

4


$\frac{1}{4}$ "

sticks. at 0° to C.A.

INTERVAL	Δ TO C.A.	MINERALOGY	AGE
186-240	45°	chl, carb, qtz, horn, py	
	80°	mag horn	
	15°	① py qtz	
	45°	② carb., py	② cuts ①
240-289	20°	① qtz-py ± horn mag	
	10°	② carb.	② cuts ①
	5°	graph carb py shear	
	15°	carb vein $\frac{1}{2}$ " with edges of oxidized py.	
289-341	50°	① py qtz sericite ± chl	
	40°	carb graph shear	
	15°	② mag horn	① cuts ②
341-393	10°	① carb chl py	① cuts ②
	5°	② qtz py	
393-458	45°	cal graph shear	
	45°	barren qtz vein	
	15°	qtz py	
458-514	5°	graph carb shear	
	10°	① qtz py	② cuts ①
	5°	② barren qtz	③ cuts ①
	10°	③ carb.	
	15°	qtz py chalc with sericite envelope $\frac{1}{2}$ "	
514-569	60°	qtz py carb ± chalc	
	5°	horn mag	
	20°	① carb py	② cuts ①
	5°	② carb	
569-612	10°	qtz sericite py chalc carb	
	45°	mul py carb chl	
612-646	15°	mag carb qtz	
	20°	qtz chalc	
	0°	late stage carb stringers	

rest of hole back one page

MIN. FRAC. WIDTH COMMENTS

MIN. FRAC. WIDTH	COMMENTS
9	$\frac{1}{8}$ " $\frac{1}{4}$ " - the pyrite vein is repetitively offset by the carb. vein
27	- pyrite vein has sericite envelope $\frac{1}{4}$ inch wide  - sericite $\frac{1}{4}$ "
22	- there is several ages of py veining $\frac{1}{8}$ "
29	- slicks. at 45° to C.A.
10	$\frac{1}{4}$ " $\frac{1}{2}$ "
6	slicks. at 15° to C.A. (nice polished face) $\frac{1}{4}$ " $\frac{1}{8}$ "
15	$\frac{3}{8}$ " $\frac{1}{2}$ "
8	$\frac{1}{8}$ "

JULY 22/76

73-9

OVERCAST

INTERVAL	TO C.A.	MINERALOGY	AGE	MIN FRAC PER 10'	WIDTH	COMMENTS
68-110	15°	py qtz		15	1/2"	vuggy vein - some chalc present
	20°	qtz py sericite chl				
110-162	0°	① qtz py chalc moly	② cuts ①	8	3/8"	
	5°	② chl carb				
	85°	large vuggy cal vein (pink)			1/2"	
162-216	80°	① large calcite dol vein		8	4 1/2"	- very texture to vein indicating open space filling by the calcite
	15°	chl qtz py vein with 1/4" sericite envel.				
	20°	③ late stage carb stringers	③ cuts ①			
	0°	graph py carb shear				slicks. at 70° to C.A.
216-270	25°	sericite kaol fault zone			1/2" wide	
	60°	① mag hem qtz	② cuts ①			
	0°	② chl py chalc		8		
	70°	qtz chalc stringer				
270-329	15°	① qtz centered with carb centered with py			3/8"	
	30°	② qtz py	② cuts ①	10	1/4"	
	70°	large cal dol vein (gray calcite)			3"	
329-379	15°	carb graph shear		3		
	30°	qtz py sericite				
379-431	15°	qtz py				
	80°	black cal. white dol 1" thick				
431-487	45°	qtz py				
	80°	carb				
	10°	qtz moly py chalc sericite				
	50°	graphite carb shears with some late gypsum				
487-541	5°	carb qtz. py				
	0°	③ py sericite frac				
	20°	① white gypsum	② cuts ①		1/4"	
	45°	② pink gypsum	① cuts ③		3/8"	- slicks. at 0° to C.A. of carb. + graph in 54P.
541-611	45°	chl brot py = moly fractures				
	60°	black cal. white carb with later carb stringers crosscutting. The carb. is about 1 foot thick				
	varied	much late stage gypsum				
	5°	graph sericite carb. shear				



INTERVAL & TO C.A.	MINERALOGY	AGE
843-859	15° carb py 10° late stage clear gypsum 5° biot carb py ± sericite	
1003-1018	15° ① carb py 80° ② graph carb shear 85° barren qtz vein	② cuts ①
1143-1160	5° graph carb shear 10° py chl sericite with late-stage gyp. coatings	
1396-1916	10° py chl sericite 15° py chl biot varied late stage gyp 20° py qtz horn mag.?	

MIN FRAC. WIDTH COMMENTS
PER 10°

b

c

 $\frac{3}{4}$ "

- slicks at 85° to C.A.

- some scattered ochreous hematite

58 HOLE (79-1) JULY 23 | 54 LK | SUNNY

INTERVAL	TO C.A.	MINERALOGY	AGE
100-167	5°	chl py frac	
	45°	py chalc. frac	
	5°	py chalc. frac	
	20°	qtz carb	
167-248	5°	① chalc. py fracture	② cuts ①
	45°	② qtz py carb	
248-327	5°	carb graph shear	
	45°	qtz py chalc.	
	15°	carb py chalc.	
	30°	carb hem shear ± graph	
	10°	mag py frac	
327-407	5°	chl biot? py chalc. qtz ± sericite	
	30°	qtz carb py	
	5°	chalc. qtz frac	
407-508	30°	mag. chl. chalc. py frac.	
	10°	① qtz carb py hem	② cuts ①
	80°	② carb ± py	
	15°	graph carb shear	③ cuts ②
	15°	③ chalc. frac.	
508-589	10°	carb graph sericite py shear	
	50°	carb graph shear	
	15°	① several ages of qtz py ± chalc. veins	
	80°	② carb. stringers	② cuts ①
589-669	10°	qtz vein centered with chalc.	
	10°	graph carb shear	
	50°	① gyp + carb	① cuts ②
	30°	gyp in orange and white	
	15°	② hem py qtz	
669-750	5°	hem phalco chl qtz fracture ± biot.	
	45°	orange + white gypsum	
	45°	qtz carb chalc. vein	

MIN FRAC. PER 10' WIDTH COMMENTS

6

1"

7

 $\frac{1}{4}$ "

- some wuggy calcite coatings
- sericite adjacent to Qtz veins

4

- slicks. at 30° to C.A.
- several ages of extensive carb. veining

4

 $\frac{1}{4}$ "

3

 $\frac{1}{2}$ " $\frac{1}{8}$ "

- slicks. at 50°

Slicks at 35° to C.A.

2

1"

- hematite occurs irregularly
 smear'd on fractures

6

quite a lot of ochreous hem.

INTERVAL	TO. C.A.	MINERALOGY	A6E
230-310	5°	carb chl hem shear	
	10°	chalco frac with sericite + chl	
310-390	10°	chl carb graph shear	
	45°	carb vein	
390-472	10°	chalco, chl, biot, gtz frac	
	15°	gtz py chalco vein	
	5°	chl carb graph shear	
	90°	carb vein	
472-549	10°	chalco gtz chl frac	
	15°	① gtz hem py	② cuts ①
	50°	② carb vein	
	5°	graph carb shear	
549-627	10°	carb. hem frac.	
	15°	① chalco py frac	② cuts ①
	70°	② barren gtz vein	
	40°	graph carb shear	
	20°	gtz py vein with sericite alt.	
	76°	gyp orange + white	
627-686	high angle	gyp pink and white - late stage	
	15°	① graph carb shear	① cuts ②
	40°	② gtz py with sericite alt.	
	0°	③ py chalco frac	④ cuts ③
	40°	④ barren gtz stringers	

MIN. FRAC. WIDTH COMMENTS

MIN. FRAC. WIDTH	COMMENTS
1	
0	sticks at 5° to C.A.
4	
2	$\frac{1}{2}$ " - sticks at 90° to C.A.
1	
2	$\frac{1}{8}$ " $\frac{1}{8}$ - $\frac{1}{2}$ " SLICKS. AT 90° TO C.A. - some scattered ochreous hematite

INTERVAL	± TOC.A.	MINERALOGY	AGE	MIN FRAC PER 10'	WIDTH	COMMENTS
120-144	25°	chalco qtz carb sericite	chl biot	8		
73-2	25°	qtz carb chl biot no chalco present				
	60°	chl carb och. hematite				
	45°	qtz chalco			$\frac{3}{8}$ "	- uuggy vein
1465-482	5°	epidote carb chl py hem				
73-4	15°	mag py hem fracture				- slicks at 0° to C.A.
	20°	qtz chl py				
118-136	20°	carb. white		13	$\frac{1}{8}$ "	
73-7	70°	qtz py carb chl biot			$\frac{1}{2}$ "	
	56°	gypsum				
125-141	20°	qtz carb py		4	1"	- some minor calcite same weird black banded variety
73-8	15°	py fracture				
	20°	chl py carb vein				
211-224	20°	chl py frac				
73-14	35°	qtz carb py chl ± biot				
201-221	5°	chalco fracture				
74-3	25°	① hem py - chl ± carb with sericite envelope				
	5°	② qtz vein	② cuts ①		$\frac{1}{4}$ "	
	5°	py fracture chl fracture				
130-142	10°	qtz py chl		2		
74-5	45°	mag py frac ± hem				
141-151	40°	① qtz py	③ cuts ①		$\frac{1}{2}$ "	
74-6	5°	② py qtz frac		$\frac{1}{2}$		- some sericite alt. along veins
	10°	③ carb				
177-187	5°	① chalco qtz	② cuts ①			
74-7	40°	② white carb			$\frac{1}{4}$ "	
	50°	hem qtz carb		17		
	50°	graph carb. shear				- slicks at 15° to C.A.
	40°	barren qtz vein			$\frac{1}{2}$ "	- there is at least two ages of carb veining.

FISH LK

INTERVAL	4 TO C.A.	MINERALOGY	AGE	MIN FRAC PER 10'	WIDTH	COMMENTS
297-266	0°	carb qtz carbonate, vuggy	coating of cal.			
<u>74-8</u>	5°	chalco frac		19	$\frac{3}{8}$ "	
	45°	① qtz py carb ± sericite	② cuts ①			
	55°	② carb				
267-281	5°	① py frac	② cuts ①			
<u>74-9</u>	10°	② carb vein		20		
	10°	graph carb py shear				
	30°	qtz py with sericite clt.	adjacent to veins			Slicks. at 30° to C.A.