GARVIN

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1971

PACIFIC WATERPROOF

Cruisers Transit Book

No. 340

XQUV

PACIFIC WATERPROOF

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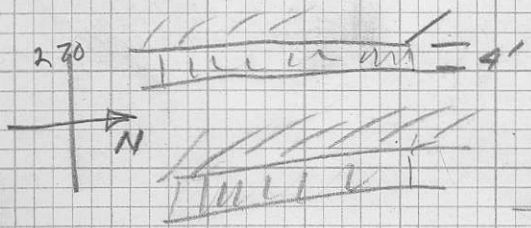
1529 WEST PENDER, VANCOUVER 5, B.C. - 681-7501

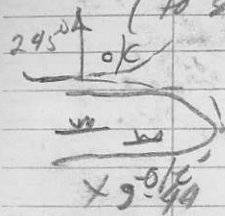
Paul & Al. Jane 2nd
9-42 & 9-42A sunny
(Hybrid) cloudy.
air photo 7122-097
& 096
- to 9-42A along bearing 270
for 1000'; no outcrop till
Δ 9-42; 9-42 50' west
of 9-42A; forms flat ridge.



flat ground
- ~~250'~~ 125' to another ↑
- ~~400~~ 200' to another 7000
- ~~1000~~ 500'

- 580' to
- 850' to edge of flattish area
small pond to left (1000' to
gully, further 250' to
the NW to Δ 9-43
- to small lake (bearing 245°
- small o/c -1) small clearing; 70' d/p
to o/c overlooking swamp;
good o/c for last 500'

- around north end of swamp (to 885 d.p.)



- climbing very steeply; lots of o/c; 1; to top high; △ 9-45; 1; note the darker cast of the hybrid; great mobile? note the obliesk qtz.

to 1031 d.p.

- heading onto bearing 230°; heading downslope for a clearing area; o/c most of the way (1); to burn across a gully to a clear area; △ 9-46 (1264 d.p.)

o/c ○ ○ ○ ○ ○ ○ patches

along 265° - 1318 d.p. o/c (1)
- 1375 d.p. o/c (1)
9 △ 47 just

- 1526 d.p. to a lake; much o/c; 1; around end of lake to top high (△ 9-47); <u>select bedding</u> 25/55 NW
SP #1 9-47 (hybrid, but not well developed; 9-47A (hybrid)
9-47B (note the select bedding)

– down a precipitous s/c takes slope to fault valley; rocks vary well & clearly faulted; slope down is / hybrid's sample 9-47 A (quartzite?); relict bedding show up well on other side (up which we had to climb; this is probably what Northrop called a fault breccia; station 9-48 at top; lunch; excellent view; one hell of a steep climb downslope & a steeper one on the other side; opt 9-48; (quartzite, though not as green as some) opt 9-48 A; meta chert (note relict bedding = 7/42 W)

{silicious sediment}

– to bottom of chasm; a long way down; quartzite & meta chert & probably lots else; on way up other side, first decent rocks I've

seen; some lo float.

- △ 9-49 part way up slope; andesite?

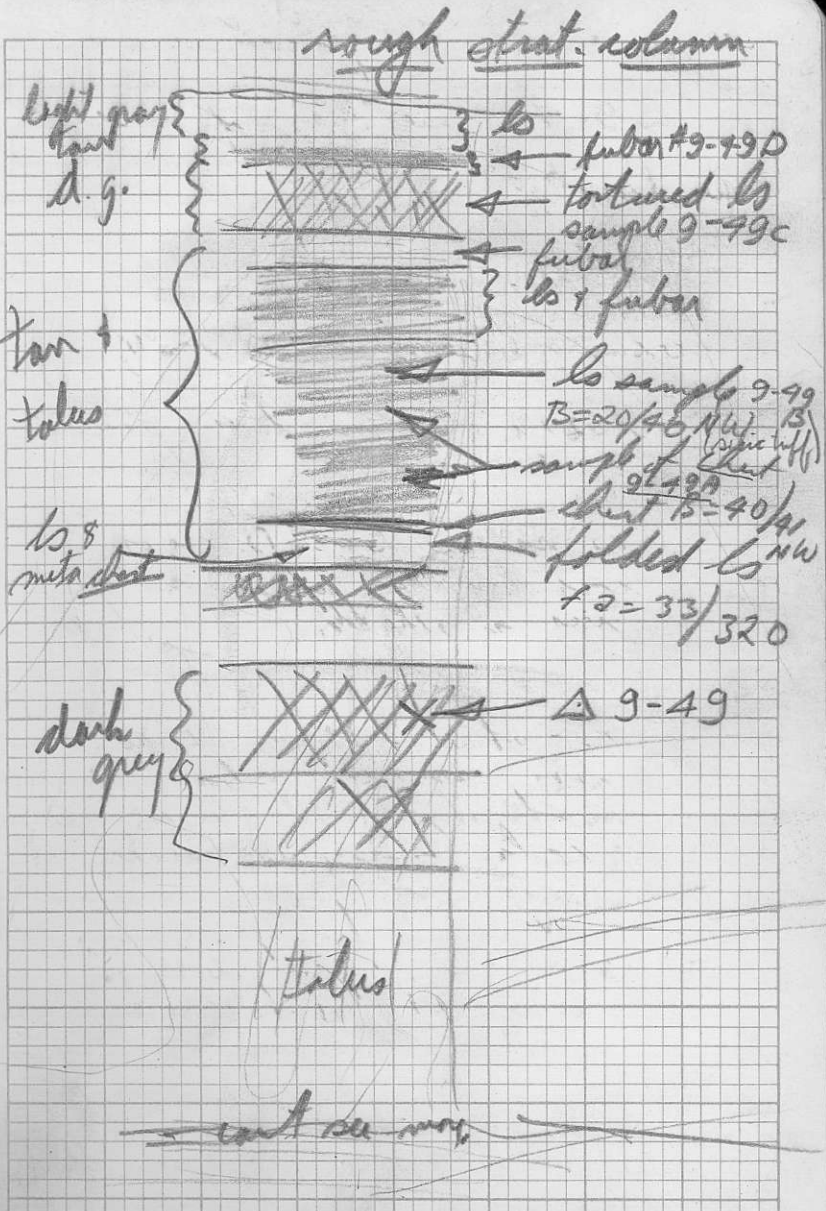
- to top.

- working downslope, △ 9-50; <u>lapilli tuff</u>?, lots of c/c

- the sequence has gotten too variable to play in the time available.

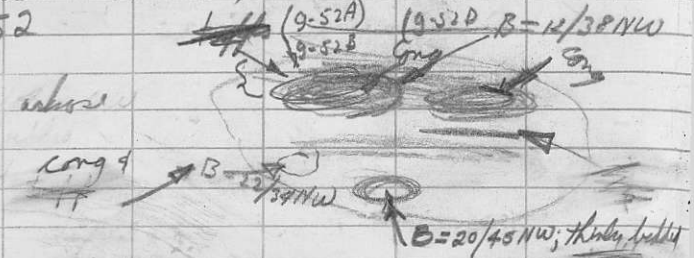
- sighting a road; average slope of 29° W; talus; left; by late gully a quick look at the geology vole. sequence; lapilli tuff ed for?

- △ 9-51; almost down the slope; 31.5° to the road.


rough strat. column
light gray
tan
d. g.
ls
fubar #9-49D
tortured ls
sample 9-49c
fubar
ls + fubar
tan +
talus
ls sample 9-49
B=20/40 NW
sample of chert
9-49A
chert B=40/41
folded ls NW
B=33/320
ls &
meta chert
dark
gray
Δ 9-49
talus
cont. on map

June 3rd, cloudy & raining Pta

rd. from
△ 9-52



- working rd from Bar Q south along the Thompson.
- △ 9-52 is hill west of Bar Q as strip; Jurassic supposedly (sp) main rock type is a cong as sample 9-52 D; the other rock type are arkose, somethdy bedded, mostly interbedded with the cong.

- △ 9-53 - what has been mapped as porphyry; looks like hybrid

- △ 9-54 - farther along o/c.

jointsets: 25/45/1/3/2

156/46/2/3/2

90/90/0/3/2

- inferred o/c a long way below us

-9-55- continuation of the "porphyry"

B = 55/25 NW Δ 9-58

~~[illegible]~~ sp # 9-58,

B = 10/28 W
B = 10/12 W } poorly sorted pebble cong in places, usually fines ~~[illegible]~~

~~[illegible]~~
~~[illegible]~~ } ↓

175/90/0/1/2
65/78/2/2/2 } # 9-~~60~~ 59 porphyry

raising steadily

June 4th – overcast – Al & Paul
– a continuation of the road traverse in the area to the south of Bar Q

– △ 9-60 Nicola flow rock (compare to 9-58; note flow? layering; 30/14 NW? (not absolutely certain as hard? to see on outcrop)

△ 9-61 epidotized Nicola rock; arrow indicates up as found, is one joint ℞ 120/83 NE (check; see if any flow layering)

marked layering = 123/65 SW – ap# 9-61 A

marked layering = 156/24 NE – ap # 9-61 B; this ℞ shows up on the slope; see air photo.

△ 9-62 – Nicola; this side slope has a lot of g/c's (see air photo) of Nicola rock.

9-62 A – dark green ep. Nicola
joint ℞'s 163/90/0/2/2
50/58/2/1/2

(appears mineralized)

△ 9-63 - Nicola; checked other o/c's
- 9-63A - porphyritic Nicola

△ - 9-64; sed rx. (metamorphosed ? pipitized)
B = 93/40N

B = 94/38N
- meta graywacke; check for H.O. indicators (3 samples)

△ 9-65 - Nicola vole.; walked up a dry canyon; inferred the farther part of the canyon

△ 9-66; worked uphill trying to find lava "porphyry", up ? 1000' from "fence line station" of yesterday; meta Nicola to me

△ 9-67; Jurassic pebble conglomerate outcrop area well rotted; no readings possible.

△ 9-68 meta Nicola ? or porphyritic ?
- 9-68A - Nicola ?

Jurassic (see air photo)

△ 9-69 Jurassic, pebble conglom + sample 9-69
B = 0/9 F

△ 9-70 - is Nicola

△ 9-71 - is Nicola?

June 5th sunny Gewin + Coombes
- from start of Spatsum Creek west.
△ 10-30 - hybrid

- see Coombes cards

Section of new logging road

5 copies

INSTRUCTIONS FOR FIELD DATA CARD

* Specifically designed for Guichon Creek batholith *

1. General Location

Maps numbered and subdivided into four parts i.e. 6-3

2. Station Number

#9

Geologist's Number and a station number. The station numbers are carried throughout the season i.e. 3----1 early in season; 3--201 later.

3. Exact Location

Latitude:	50° 31.5'	shown as	315
Longitude:	120° 46.7'	"	467
	121° 09.6'	"	696

4. Rock Type

(1) Hybrid
(2) Chataway
(3) Guichon
(4) Bethlehem
(5) Contact phase of Bethlehem
(6) Bethsaida
(7) Gump Lake
(8) Xenoliths (comment on nature and state of assimilation)
(9) Kamloops volcanics
(10) Nicola volcanics
(11) Metasedimentary rocks (Nicola?)
(12) Spences Bridge volcanics

Samples: State number of samples collected

Dyke Rocks or F.G. Granitic Rocks

D1 Qtz Feldspar porphyry - Valley Copper type
D2 Qtz. plagioclase phenocrysts. aplite matric
D3 Crowded Hornblende plagioclase porphyry ~~etc.~~
etc.

5. Foliation - ~~Development~~

(1) Well developed (2) Vague (3) Intermediate

6. Measurements of Planar Features - dip direction

(0) Vertical

(1) N. NW. NE. W

(2) S, SE, SW, E

7. Textures

Quartz

(1) Large, squarish crystals
(2) Large, anhedral crystals
(3) Closed interstitial texture - wedgy crystals
(4) Open " "
(5) Aplitic texture
(6) Rounded crystals
(7) Euhedral crystals

Mafics

(1) Euhedral
(2) Clustered crystals
(3) Single crystals
(4) Poikilitic
(5) Uniform size
(6) Wide size range
(7) Two distinct sizes
(8) Unevenly distributed

8. Mafic Minerals

(1) Biotite
(2) Hornblende
(3) Biotite + Hornblende
(4) Pyroxene
(5) Olivine

Ratio:
1. Hb > Bi
2. Bi > Hb
3. Bi = Hb

9. Alteration and Vein Minerals

(1) Chlorite
(2) Epidote
(3) Tourmaline
(4) Sericite
(5) Argillic
(6) Gypsum
(7) Quartz
(8) Carbonate
(9) Kfeldspar
(10) Cyrysocolla
(11) Malachite, azurite
(12) Chalcopyrite
(13) Bornite
(14) Molybdenite
(15) Hematite
(16) Magnetite
(17) cc (chalcocite)
(18) Zeolite
(19) Pyrite

10. Intensity (Alteration)

(1) Slight
(2) Moderate
(3) Intense

.....3

11. Width of Veins

(1) Less than 1/8 inch
(2) 1/8 to 1/2 inch
(3) Greater than 1/2 inch

12. Intensity (veining)

(1) Less than 1 inch apart
(2) 1 to 6 inches apart
(3) 6 inches to 2 feet apart
(4) More than 2 feet apart

13. Dykes

Density

(1) Less than 50 feet apart
(2) 50 to 200 feet
(3) 200 feet to 1,000 feet
(4) Greater than 1,000 feet

14. Dykes Width

(1) inches wide
(2) a few feet
(3) 10 to 50 feet
(4) 50 to 100 feet
(5) greater than 100 feet

15. Joints

Density

(1) Less than 1 inch
(2) 1 to 12 inches
(3) 1 to 4 feet
(4) More than 4 feet
(5) More than 10 feet

16. Joints

Character

(1) Shear joint (striated)
(2) Closed
(3) Open (tension)
(4) Infilled (give mineral growing in joint)

17. Faults and Striae Movement Sense

(1) Strike-slip
(2) Oblique
(3) Normal
(4) Reverse

Instruction - Station Card

Up To Date

Exact location Lat. 50° 31.5' shown as 315'
Long. 120° 46.7' shown as 467'

Rock Type
1. Hybrid
2. Chataway
3. Guichon
4. Bethlehem
5. Contact phase of Bethlehem
6. Bethsaida
7. Gump Lake
8. Xenoliths (comment on digestion and nature of xenolith)
9. Kamloops volc.
10. Nicola
11 Metasedimentary Rocks
12. Spences Bridge
13. Spatsum granite
14. Jurassic bed

Dykes or f.g. Granitic Rocks
- D1 Quartz Feldspar Porphyry (Valley Copper - type)
- f.g. D2 Quartz-potash feldspar-rich porphyry
- D3 Hornblende plagioclase porphyry (crowded porphyry) } pyrite-epidote clots
- D4 Hornblende-needle feldspar porphyry (Krain-type) ± Qtz
- D5 Leucocratic grey
- D6 Qtz H6 Fs crowded porphyry
- D7 Aplite
- f.g. D8 Quartz-rich, potash-feldspar-poor porphyry
- D9 Like D2 but quartz-poor

D 10 Green Trojan Dike
D 11 Green H6 Fs porphyry
D12 Bethsaida Dike (Like D1)
D99 Unknown
D13 Lornex Qtz-Eye Porp

IF **Breccia:**
1. Caused by veining and alteration
2. True breccia - no exotic fragments
3. True breccia with exotic fragments

Foliation:
1. Well developed
2. Vague
3. Intermediate

Dip Direction
0 vertical
1 N, NW, NE, W
2 S, SE, SW, E

Mineralogy
give estimated percentages

Textures - Quartz
1. large squarish crystals
2. large anhedral crystals
3. closed interstitial texture (wedge-shaped crystals)
4. open interstitial texture
5. aplitic texture
6. rounded crystals
7. Euhedral xls

Mafics
1. euhedral
2. clustered crystals
3. single crystals
4. poikilitic
5. uniform size
6. wide size range
7. unevenly distributed
8. two distinct sizes
9. Evenly Distributed

Mafic Minerals

1. Biotite
2. Hornblende
3. Biotite and hornblende

1. Hb > Bi
2. Bi > Hb
3. Bi ≈ Hb

Alteration and Vein Minerals

1. chlorite
2. epidote
3. tourmaline
4. sericite
5. kaolinite (clay)
6. gypsum
7. quartz
8. carbonate
9. orthoclase (kspar)
10. chrysocolla
11. malachite
    azurite
12. chalcopyrite
13. bornite
14. molybdenite
15. ~~oxide stain on joints~~ (hematite) (to July 31/70 Doug used 15 for limonite)
16. magnetite
17. cc (chalcocite)
18. Zeolite
19. Pyrite

Intensity (Alteration)

1. slight
2. moderate
3. intense

Intensity (veining)

1. less than 1 inch apart
2. 1 to 6 inches apart
3. 6 inches to 2 feet apart
4. more than 2 feet apart

Width of Veins

1. less than 1/8 inch
2. 1/8 to 1/2 inch
3. greater than 1/2 inch

Dykes

Density

1. less than 50 feet
2. 50 to 200 feet
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1. inches wide
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Joints

Character

1. shear joint (striated)
2. closed
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4. infilled (give mineral growing in joint)

Faults and Striae

Movement Sense

1. strike-slip
2. oblique
3. normal
4. reverse