

**RIO TINTO FIELD WORK**

**VALENTINES PEAK QUADRANGLE**

**57 - 184**

**LIST OF PHOTOS**

VALENTINES PEAK RUN 4 – 22086

VALENTINES PEAK RUN 5 – 22122

VALENTINES PEAK RUN 7 – 22178

VALENTINES PEAK RUN 7 – 22179 (2 photos)

VALENTINES PEAK RUN 7 – 22180 (2 photos)

VALENTINES PEAK RUN 7 – 22181 (2 photos)

VALENTINES PEAK RUN 8 – 22183 (3 photos)

VALENTINES PEAK RUN 8 – 22184 (2 photos)

VALENTINES PEAK RUN 8 – 22185

VALENTINES PEAK RUN 9 – 22609

VALENTINES PEAK  
000

20 chains 1949

Property Schedule  
452003

RUN NO	PHOTO NO	OVERLAYS		FIELD NOTES			COMPILATION	
		FINISHED	CHECKED	PRINTED	TYPED	CHECKED	PRELIMINARY	CONTOUR MAP
4	22086							
5	22122			✓				
7	22178 79 22180 81			✓				
8	22183 85							
9	22608 09			✓				
Enlargements of 20 chains 1949								
RUN NO	PHOTO NO							
7	22179 22180 81 81							
8	22183 83 83 84 84 85							

**MICROFILMED**

01 001

VALENTINES PEAK

Statement

452004

Run No	Rio's TOTAL	TAKEN & TRACING	NO	REMARKS
	20 chains	1949		
1	22009-22030	—	0	
2	22031-22053	—	0	
3	22054-22077	—	0	
4	22078-22099	22086	1	
5	22100-22108			
	22118-22133	22122	1	22109-22117 Missing
6	22134-22156	—	0	
7	22157-22181	22178, 9 22180, 0	4	
8	22183-22206	22183, 5	2	
9	22589-22614	22608, 9	2	
Gate Tc	22228-22242	—	0	
Exit Tc	22208-22227	—	0	
	Employments of 20 chains	1949		
7	?	22179 22180, 1, 4	4	
8	?	22183, 3, 3, 4, 4, 5	6	

006

VALENTINE H-22086

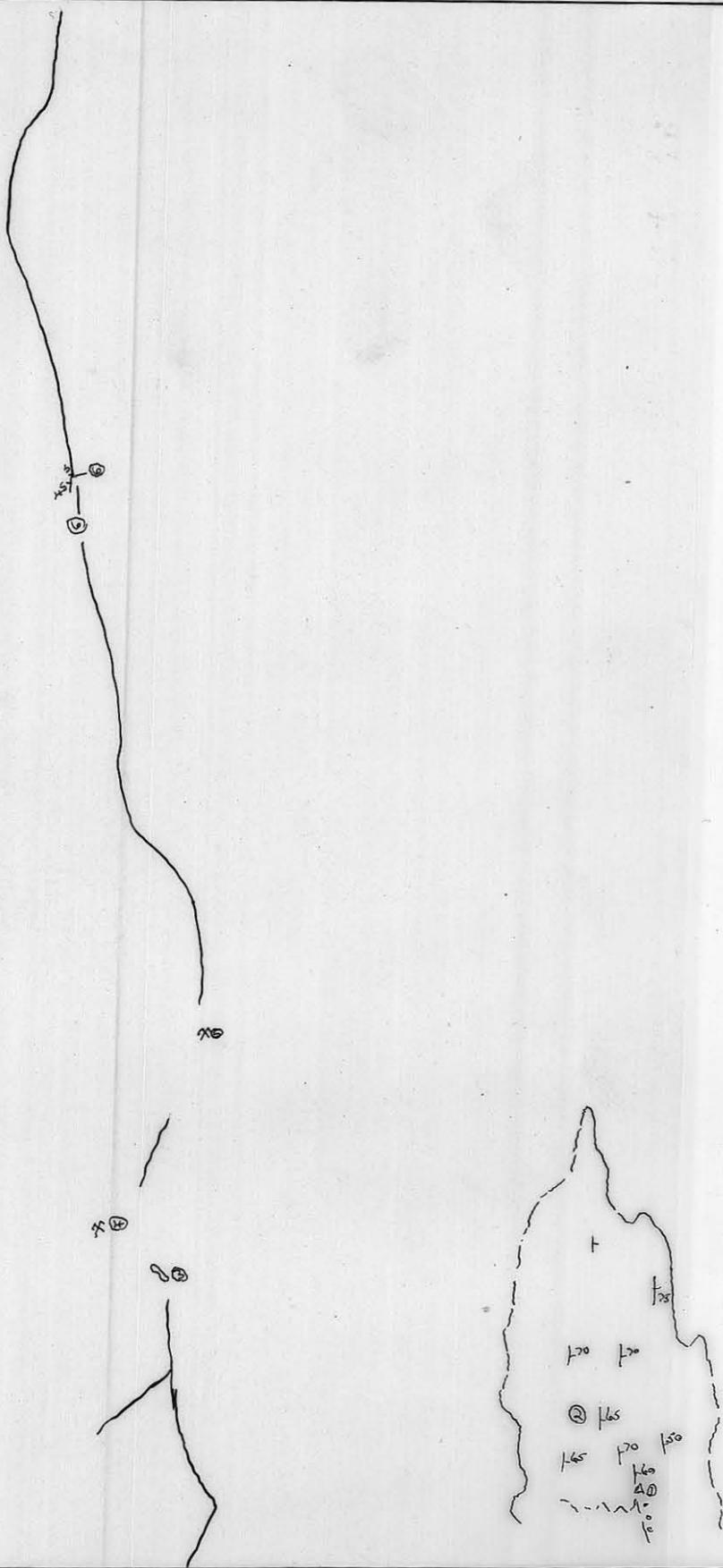
452005

005

Valentine  
22086

Rom +

5 cm



- 003
- ① Peak; ridge composed of bands of coarse typical lower Owen alternating with med.-fine grained breccia-conglomerate containing sandy lenses.
  - ② Conglomeration of medium-coarse grained conglomerates with large rounded pebbles alternating with well-bedded breccia-conglomerates & sandy beds. Bedding clear, all dips to east, 65-70°.
  - ③ Horizontal crudely jointed shale, pale grey to dark grey; varying from clay-like to medium hard. Spheroidal weathering locally as a result of intersecting joints. Permian.
  - ④ Quarry in glacial till - large blocks of several ft. diameter, chaotically arranged, no bedding, 90% Owen fragments & some hard creamy felsite (?) containing splashes of tourmaline in veins.
  - ⑤ Porphyritic cream-colored igneous rock; sparse quartz phenocrysts of 2-3 mm diameter in a felspathic base; well jointed. Cambrian rhyolite?
  - ⑥ Coarsely banded cherts, variable, banding shows as an alternation of pale grey dense chert & lenticular pale green diopside (?); other parts nearly dark grey chert.

Valentine's Peak Run 4 22086.



- ① Tanted breccia conglomerate, pebbles  $3\frac{1}{4}$ " in sparse matrix. larger quartz & quartzite well rounded to subangular, smaller subangular-angular. Pebbles mainly quartz, also quartzite, banded chert, pellets buff PE? shale. Much of fine angular material like Biggs Creek breccia conglom. Moving up ridge, size of larger fragments rises to 18", mainly of subangular grey quartzite.
- ② Sandy bands appear & conglomerate becomes finer & more even grained, averaging 1", with less angular material.
- ③ ~~Also~~ Breccia-conglomerate, well bedded, sandy lenses, average pebble size  $\frac{3}{8}$ ", rare subangular quartz pebbles up to 1" diameter.

Section A → B.

- ④ Fine breccia conglomerate to ~~granite~~ conglomerate, sandstone matrix, variation in grain size & sandy lenses emphasize bedding. Fragments mainly quartz & chert, some quartzite, yellow sandy shale. Occasional beds of coarser conglomerate with rounded pebbles increasing upwards towards ⑤. Grades <sup>north</sup> along strike to alternations of coarser conglomerate & fine breccia conglomerate as described in ②, Run 4, 22086
- ⑤ Coarser, less uniform pebble size, from  $3\frac{1}{4}$ ", larger pebbles subangular or rounded, smaller subangular or angular. Coarser bedding than ④. Sandy & finer conglomeratic bands. Coarsening upwards to boulders of 6"-12" diameter, then last 20' finer again.
- ⑥ Brownish coarse sandstone - quartzite, often pebbly, alternating with medium grained conglomerate similar to lower part of ⑤.
- ⑦ Peak composed Peak ridge composed of variable coarse conglomerates & finer material. Strike varying from 160 to 180°, dips 40° to 70° East.

010 Total thickness difficult to estimate probably about 1000', western & lowest 100' not examined in this section.

- color throughout is externally a purplish-brown, internally either pale grey, buff, or cream.

Valentines

Run 5 22122

012

VALENTINE

7-22178

452009

011

Handwritten symbols and numbers, possibly a list or code, including characters like 'X', 'Y', 'Z', 'A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I', 'J', 'K', 'L', 'M', 'N', 'O', 'P', 'Q', 'R', 'S', 'T', 'U', 'V', 'W', 'X', 'Y', 'Z', '1', '2', '3', '4', '5', '6', '7', '8', '9', '0', and various symbols.

5 cm

Run 7

Valentine

22178

- ① Soft black shales and grayish quartzites, interbedded, Pre Cambrian.
- ② Soft grey, sandy shale, slightly micaceous, deeply weathered, PE?
- ③ Soft grey-orange, shale, finely laminated, not micaceous
- ④ Grey-black quartzite, micaceous at bedding planes, massive to thinly bedded; weathers to an orange colour.
- ⑤ Soft, orange, finely laminated shale, similar to ③

013

Valentine  
R-7  
2277

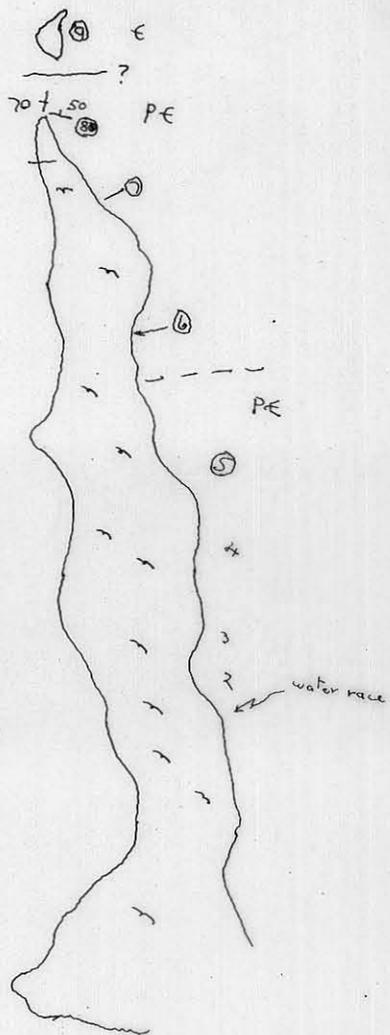
452010

015

VALENTINE 7-22179

452011

014



Valentine Run 7 22179

① creek

Dolerite Soil

Dolerite

Basalt fragments

5 cm

016

- ① E-W creek - rubble of dolerite, occasional basalt & massive quartzite.
- ② White rock composed of mainly quartz & feldspar, no banding, chlorite veins. Rhyolite? Rubble only.
- ③ Buff cherty shales & quartzites. ~~massive~~ <sup>massive</sup> only
- ④ Banded pale grey cherts alternating with shale; some outcrop
- ⑤ Soft brownish shales. In creek, dolerite, basalt (Cambrian? - see 9), shale, tuff pebbles.
- ⑥ Outcrop weathered well jointed tuff & lava (?).
- ⑦ Grey blocky fresh impure sandstone or tuffaceous sandstone, medium-grained. Quartz plentiful in subangular grains.
- ⑧ PE quartzite & dark grey sandy shale & grey-green shale, pyritic in places.
- ⑨ Closely jointed, fresh grey-blue aphanitic basalt (?). Rare phenocrysts & amygdules. Associated with tuff. ~~250~~
- ⑩ 50' above into see soft grey micaceous ss like grey shales. softish sandstone base 30/55 ss steep; micaceous like - metamorphic grade but PE lithologies. Also medium grained micaceous ss like (?) darkly bedded.

Volcanic Run 7  
22179

C 018

VALENTINE

7-22179

452013

017



5 cm

Valentine Run 7 22179

- ① Recent Alluvium, Re-sorted tailings, boulder terraces etc.      ⑦ Tertiary basalt.
- ② Quartz-felspar porphyry dykes. In part pyritized, with development of topaz, fluorite. Carried the tin solutions. Then completely altered to topaz, pyrite and quartz.
- ③ B. schist zone. micaceous quartzites, mineralized, bordered to east by fissile, weathered slates. Dip to west and appear to underly the Dundas pyroclastics. In Waratah R. near Powerhouse form series of folds. NW-SE.
- ④ Dundas f.g. tuff.      ⑤ Coloured, laminated, silicified ash-bed. Highly contorted.      ⑥ M.g. tuff and agglomerate

BIG AUSTRALIA EXPLORATION PTY. LTD.

019

Valentines Run 7

22279

452014

021

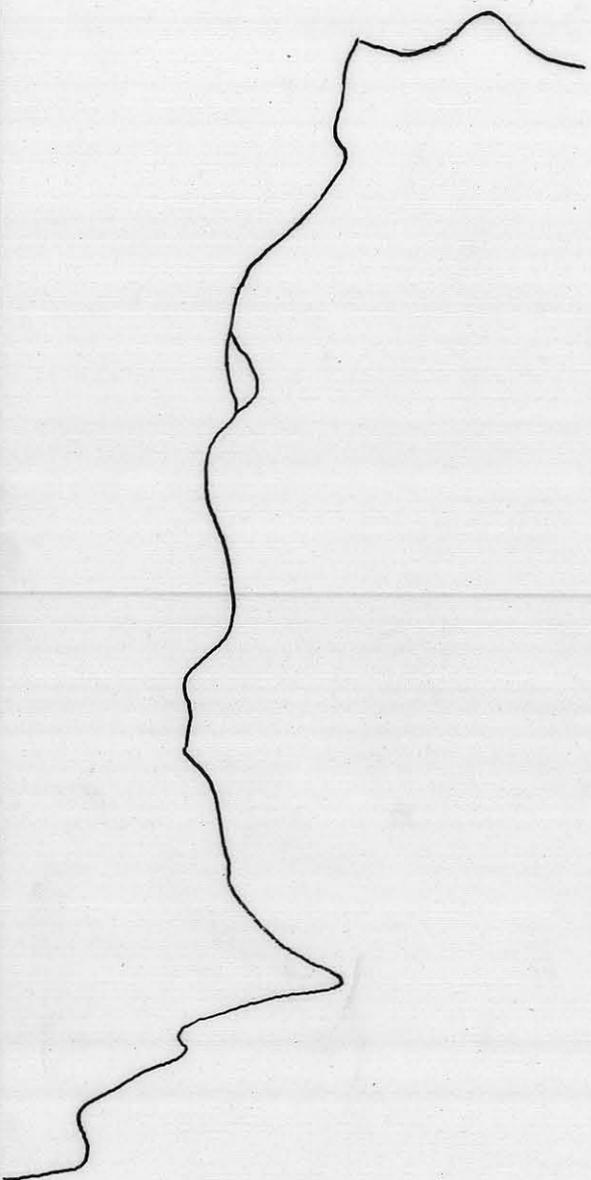
VALENTINE

7-22180

452015

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Valentine's Peak

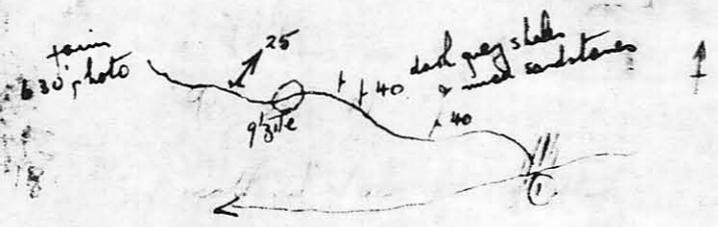
Run 7

22180

Valentine's Peak Run 7 22180

- (1) Sheared dark shales, generally 20° strike; enter race from creek.
- (2) Thick bedded quartzites 125/20 NE. Falls.
- (3) Poor exposure quartzites 90/60 N?
- (4) Water race

022



55 buff

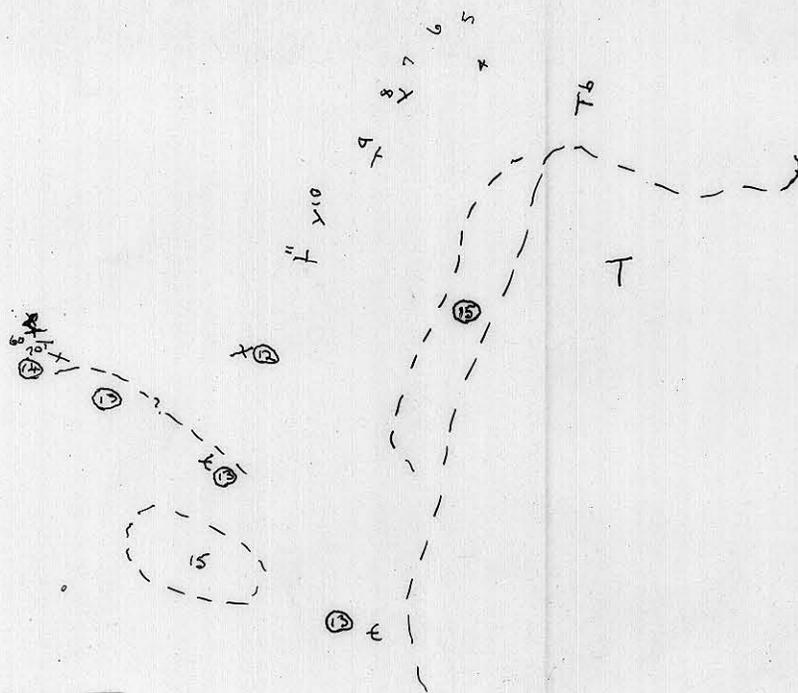
452016

VALENTINE 7-22180

452017

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023



5 cm

Valentine Run 7 22180 (ENLARGED)

12. Dark shales (cf detailed mapping). Pre-Cambrian.
- (13) Grey-green shales, fine tuffs, brown tuffaceous shales, etc. Bedding obscure, weathering deep.
- (14) Mainly dark & pale grey shales, finely but crudely cleaved. Sandstones like (73) of detailed mapping become more prominent to west (110/705), also thin quartzites, some showing a marked banding of pale & dark greys, Generally similar to (1) of detailed mapping.
- Contact of (13) & (14) appears conformable, like two different beds in a normal sequence apart from 1"-2" of ferruginous material at junction.
- (15) Erosion(?) level some 150' below basalt plateau & cut in PE or E sediments.

22 180

Valentin Run 7

452018

Valentine Run 7

22181

5 cm

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no outcrop

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452019

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VALENTINE 7-22181

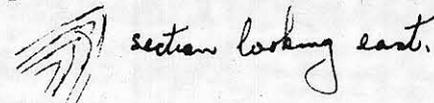
452020

M. Soloman 1959.

- ① Fine banding in well jointed soft red-pink or brown-buff shale.
- ② Buff shales & fine sandy shales, latter often with pellets of shale. Coarsely jointed, finely fractured, bedding indistinct.
- ③ Brownish fine-medium grained tuff or tuffaceous sandstone, purple & pale shales, etc
- ④ Weathered pale grey-green shales. PE?
- ⑤ Poor exposures sheared shales & thin grey quartzites. PE.
- ⑥ Micaceous fine pinkish & buff tuff & rare lenses of banded pale shale. No bedding generally; closely jointed.
- ⑦ Pale weathered shales.
- ⑧ Deeply weathered pinkish quartz porphyry; igneous looking base, many phenocrysts removed. Possibly a gfp dyke offshoot from the main dyke to the west.

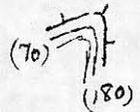
Immediately south: purple shales & tuffs (like ⑥). 65° vert.

- ⑨ Mainly dark shales with thin quartzites (micaceous), 70/80N, drag folds in shales strike 25° or plunge west at 25°, axes dip N at 45°.



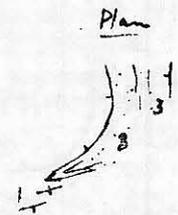
section looking east.

- ⑩ Accordion or zig-zag folds,  $\lambda = 3'-4'$ , plunge westerly, shales & thin quartzite bars.

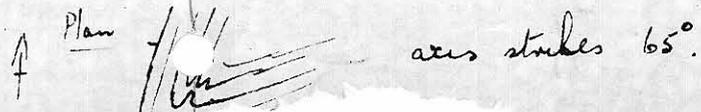
- ⑪  6"-1' bedded quartzite, 6' thick, sketch shows plan exposure, fold 20' wide.

- ⑫ Quartzite contortions:

028

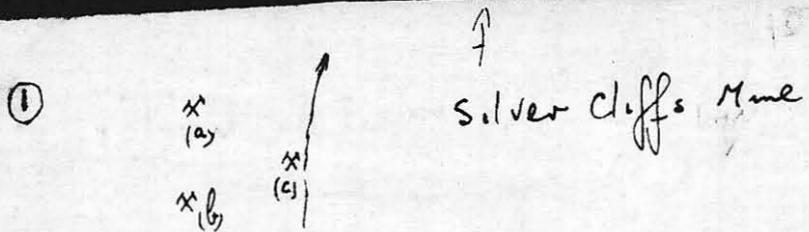


- ⑬ Thinly bedded (6") sandstones with shale bands. Sandstone very micaceous & containing shale pellets.



All quartzites & sandstones micaceous.





- (a) Dore west into hill in quartzites & slabs, pyrite & local splashed galena & calcite-siderite
- (b) shaft in slates & quartzites carrying veins of galena & calcite.
- (c) Dore west into hill, large dump, pyrite & galena in sediments.

QUARTZITES

Valentine Ave 7 22181



- ① Alternating fine-medium brownish tuff & rather sheared purple shales, ~~grey~~ grey fine impure sandst, etc
- ② Mainly massive brown to green tuff.
- ③ closely jointed very dense dark blue-grey basalt(?). Weathered along joints.
- ④ grey-green shales & sandstones, purple shales etc. Folded on axes  $95^\circ$ , -hanging west.
- ⑤ large blocks of dark porphyritic basaltic lava.

Valentin Run 8

22183

034

452024

036

VALENTINE 8-22183

452025

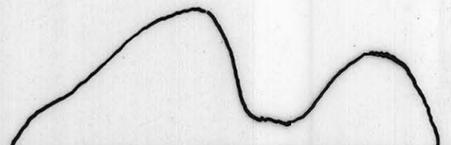
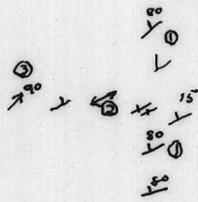
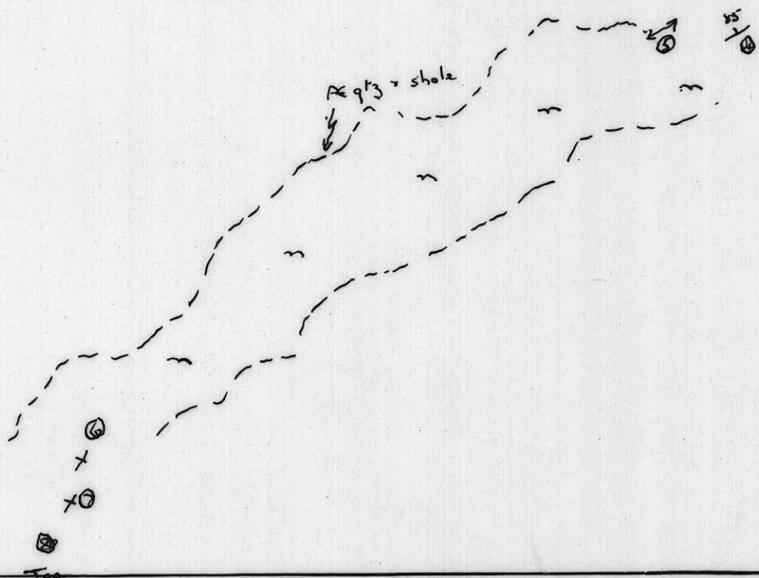
035

5 cm

no  
outcrop

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a f (10)

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50  
60

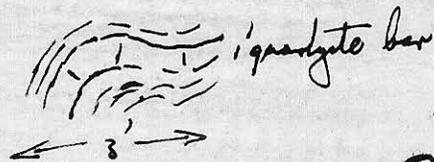


Valentina Run 8

22183

M. Soloman 1959.

- ① Sheared dark grey shales & grey quartzite beds. Mainly 60-70° vert.
- ② Lithology as for ①: fold as sketched axes 70°, flat plunge: looking east:
- ③ Tight accordion folding, axes c. 60° but horizontal, vertical plunge. Sketch in note book 54 p. 69
- ④ 1"-1'6" bedding in dark grey quartzite overlying thick bedded quartzite & shales showing folding.
- ⑤ Alternating quartzite & shale, zig-zag folding, axes 70°, steep dip to N.
- ⑥ Cutting shows weathered greyish & brownish rather cleaved shales. E?
- ⑦ Highly cleaved PE shales with thin quartzite bands. Fragments chert breccia - see interpreted fault.
- ⑧ Pale grey & dark grey cherts; very fine banding (100/505) & closely spaced joints vertical & ⊥ bedding. Weather white.
- ⑨ Finely banded shales; sandy shales; quartzites with repeated shale partings; quartzite bands & lenses.
- ⑩ Massive green fine agglomerate & tuff.



037

Volcanic Run 8  
22183

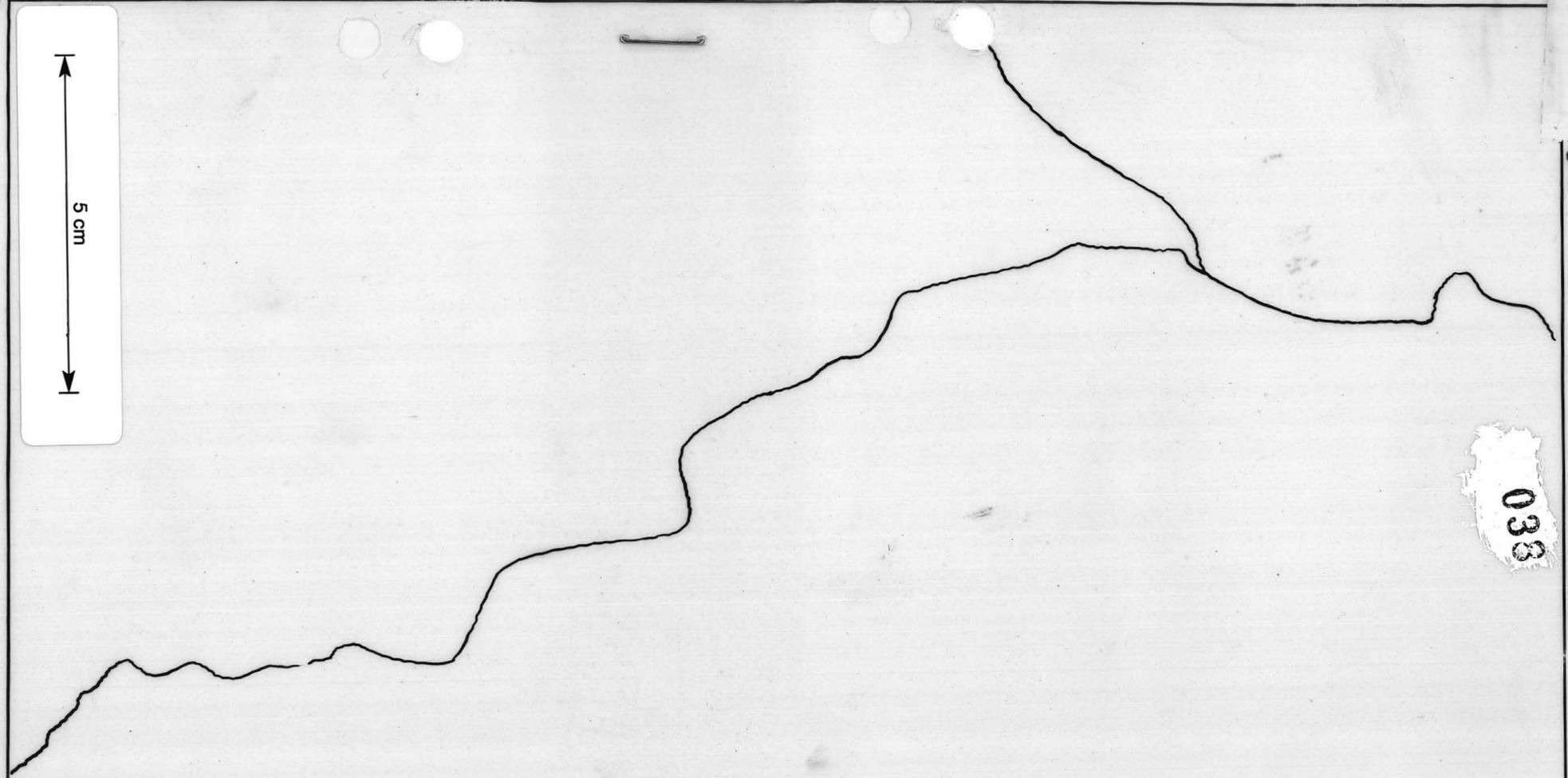
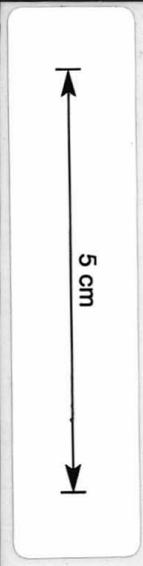
452026

VALENTINE 8-22183

452027

033

033



Valentine Run 2 22183



1. Well bedded, greyish, quartzites and shales. Occasional competent bed bands quartzite surrounded by crumpled shales. Pre-Cambrian?
2. Orange red tuffaceous sandstones, and reddish shales, well bedded in places. Cambrian.
3. Kahki to light brownish tuffs and chocolate shales, finely laminated. Portion of tuff adjacent to shale contains angular fragments of the choc. shales, generally elongated parallel to bedding.
4. Interbedded sequence of brown to red tuffaceous sandstones and yellow to brown shales, sandy in places.
5. Pale brown shales
6. Medium-grained equigranular quartz-felspar-fenug. dyke, weathered, 20'-30' thick.
7. Outcrop at foot of hill: dark base fine-medium grained rock - basalt?
8. Blue-grey fine grained basalt alternating with tuffs & shales.

040

Valentin  
22, 183  
N 8

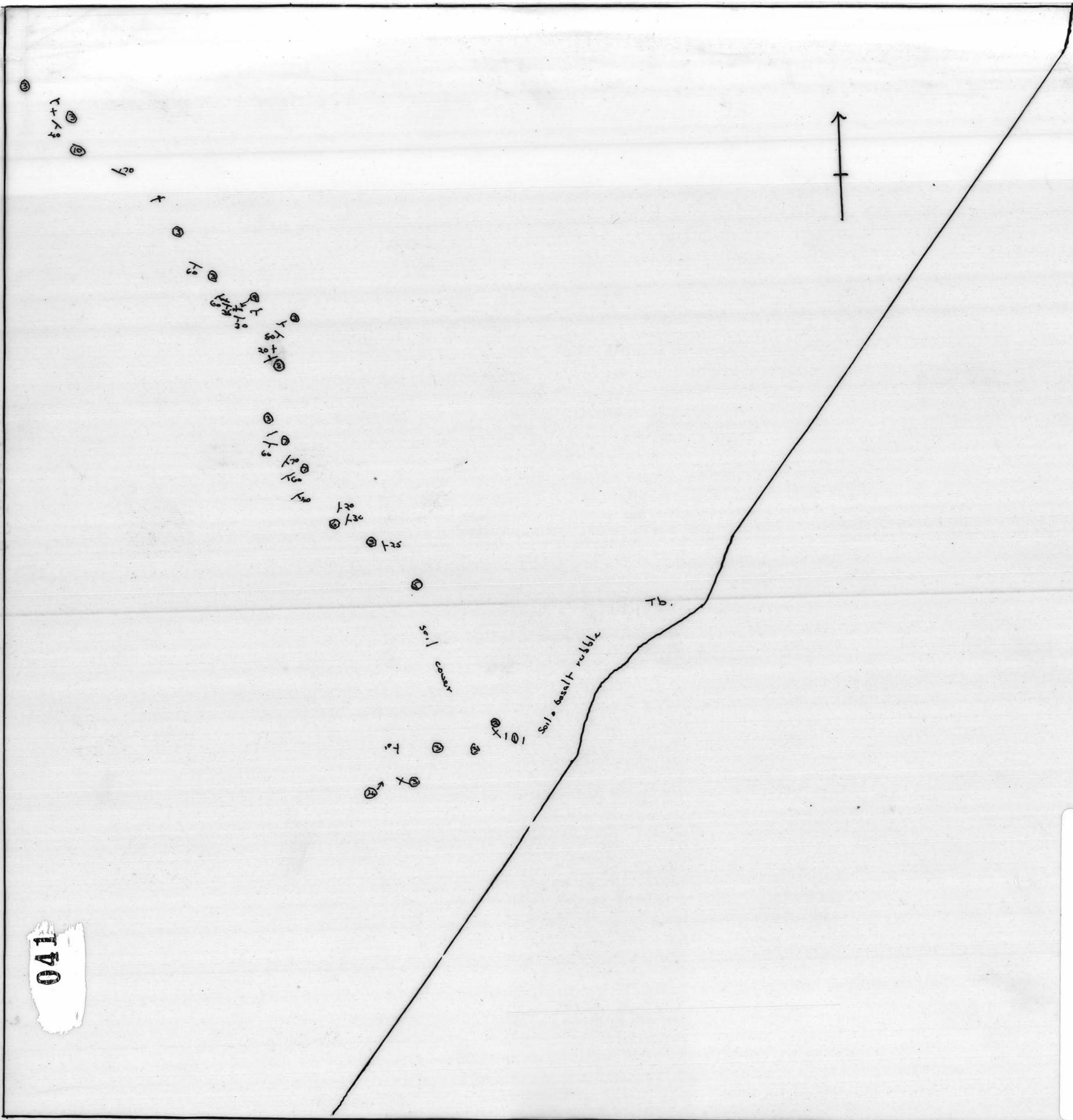
452028

042

452029

VALENTINE  
8-22-84

041



5 cm

VALENTINES LEAN JUN 8 22184

- ① Y/sc. Tertiary?
- ② Thinly bedded quartzites, some shales. One exposure of rather muddy quartzites shows very fine banding. Palaeozoic?
- ③ Weathered medium grained tuffaceous (?) sandstone, brown or green grey in colour, with thin shale lenses giving bedding readings. Dundas Group.
- ④ Quarry in closely jointed featureless fine grained sandy tuff.
- ⑤ R/c with spheroidal & rounded fragments of ③ & also gravel.
- ⑥ Mainly grey-brown & grey-green rather banded shales, poorly bedded & closely jointed.
- ⑦ Weathered finely banded, almost vein-like, shale.
- ⑧ Well bedded closely fractured purple shales.
- ⑨ Poorly bedded grey-green shales & mudstones: close folding on axes  $110^\circ$  in this area.
- Looking west:
- ⑩ Brownish fine grained tuff or tuffaceous sandstone, no bedding, closely jointed, very few shale lenses.
- 

043

V. L. R. M.

Run 8

22184

452030

VALENTINES PEAK Run 8 22184

5 cm

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108  
59

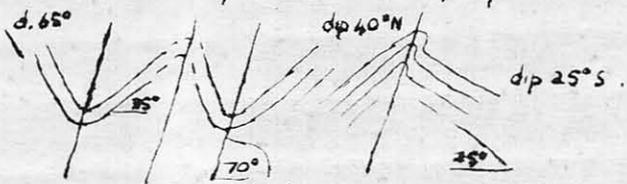
044

452031

VALENTINE 8-22184

043

1. Interbedded greyish green shales and brownish green tufts, well bedded, and closely folded along parallel axis, striking  $105^\circ$  and plunging to the east.



Section perp to strike direction.

2. Tightly folded yellow shales.

046

V. Blum  
Mar 8 22, 184

452032

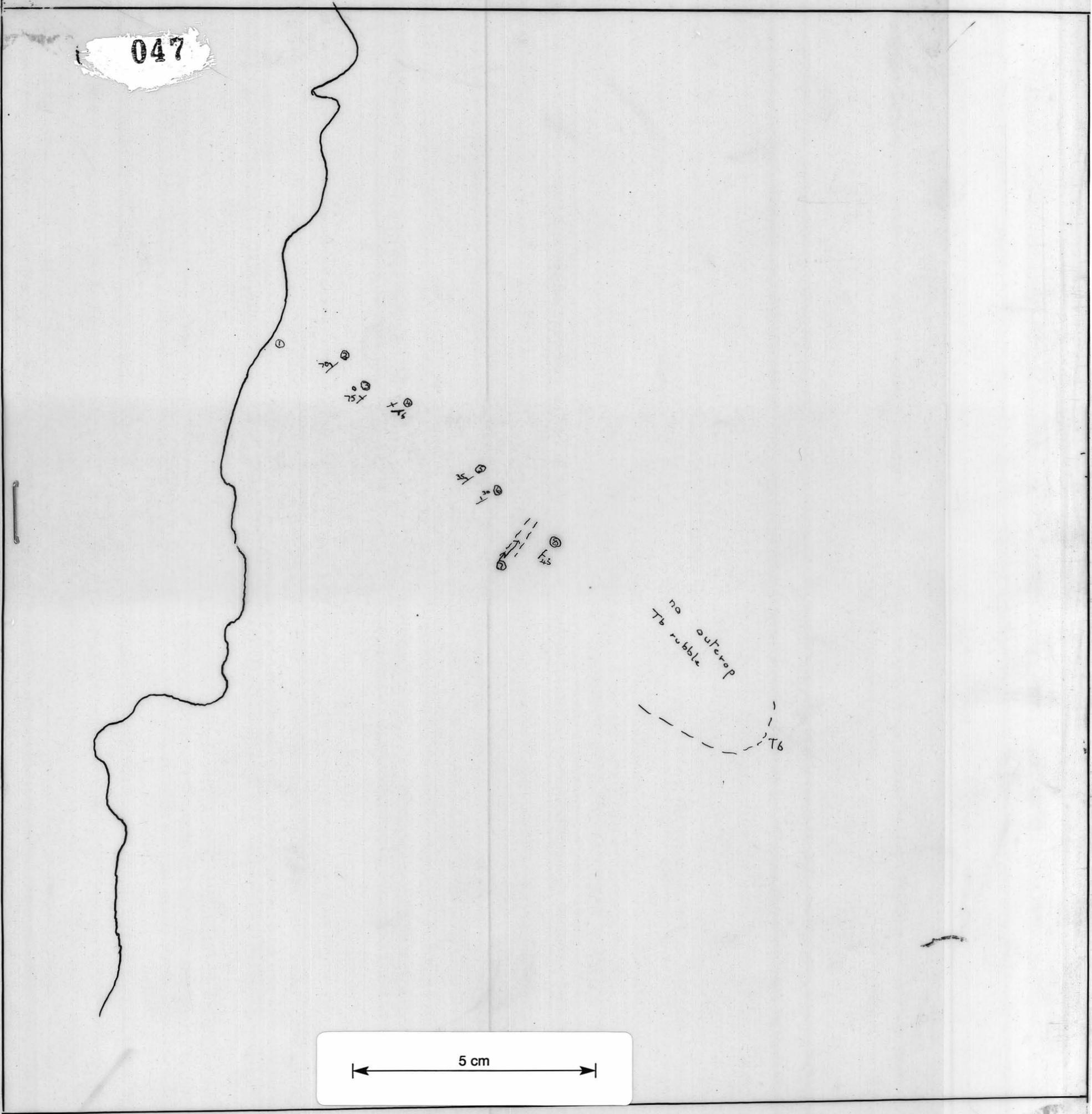
048

VALENTINE

8-22185

452033

047



5 cm

Valentine Run 8

22185

- ① Dark shales & thin quartzites, on water race.  
(see detailed map)
- ② Water race: shales & thin quartzites 45/70 NW  
No outcrop in Falls Creek below water race.
- ③ Massive grey mica quartzite.  
20' upstream: banded shaly quartzites 45/75 NW.
- ④ Gently dipping massive quartzite, making small falls.  
Quartzite c. 50' thick 100/5-15 S.
- ⑤ Bedded quartzites 55/35 NW.
- ⑥ Thinly bedded sandy shales & quartzite bands.  
Rolling, average 45/30 NW.
- ⑦ Quartz feldspar porphyry, feldspar altered. Appears outcrop about 100' long.  
At east side, mainly a dense pale greenish grey felsite & rare quartz phenocrysts locally  
~~are~~ strongly banded (25/vert); if banding is parallel to walls then dyke is about  
300' thick here.
- ⑧ PE shales, finely banded. 35/45 SE.
- ⑨ Fairly frequent outcrops of type ①. \* Small exposure zig-zag folds show axes at 70°  
plunge steep E.

049

Valentin Puris  
22, 1955

452034

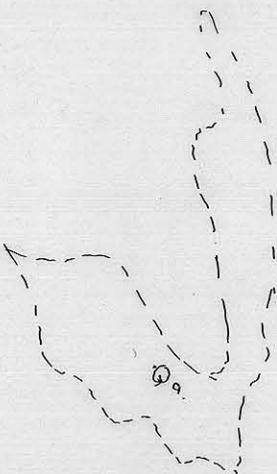
003

VALENTINE

9-22609

452035

002



Tb

Occasional  
boulders  
conglomerate



5 cm

Run 9

22567  
22609.

452036

Section on western cliffs of ... near ... Section on Western Cliffs of Mr. Pearce

- ① Lower cliffs:
- 50' : Siliceous conglomerate of 2" pebbles merging up to 6" pebbles, subangular, purplish colour, typical Lower Owen as on Mt. Techar. 15/55E
  - (Thickness to north & south 150')
  - 12' : alternation of purplish sandstone & fine breccia-conglomerate as described below.
  - 50' : no exposure.
  - 15' : purplish sandstone, as below.
  - 5' : 1" breccia-conglomerate as below.
  - Total: 175'
  - 10' : Purplish fine sandstone
  - 10' : Fine grained breccia-conglomerate, poorly sorted, fragments from 1/2" to microscopic, many angular, mainly quartz & quartzite & also a few purplish hornfels(?). Bedding not well defined. 15/60E.
  - 20' : Purplish coarse-medium grained rather poorly sorted sandstone or grit with many angular grains, mainly quartz & quartzite & larger fragments (up to 1/4") of purplish hornfels(?). Specimen micaceous & finer grained at base of exposure. 15/65E

Run? Marked? ?

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22609  
(Valentines??)

② grassy slopes, one exposure about 70ft. below ③: finely banded (varve-like) brownish rock, rapid alternations of quartzite & shale (or siltstone), the individual bands often broken & slightly contorted as if due to current disturbances.

300

③ 400' : Thinly bedded (1' - 1/2") red-purple micaceous sandstone quartzite. Pinkish near top. Observe vermicular structures on bedding & faint structures ⊥ bedding. Cross-bedding rare; right way up.

400