RIOTINTO FIELD WORK

PIEMAN QUADRANGLE

57 - 186

LIST OF PHOTOS

MURCHISON RUN 2 – 42867

PIEMAN RUN 4 – T319-108

PIEMAN RUN 5 – T319-69

PIEMAN RUN 5 – NEXT TO T319-71

PIEMAN RUN 6 – T319-35

PIEMAN RUN 6 – T319-37 (2 photos)

PIEMAN RUN 7 – T317-37 OR T318-116

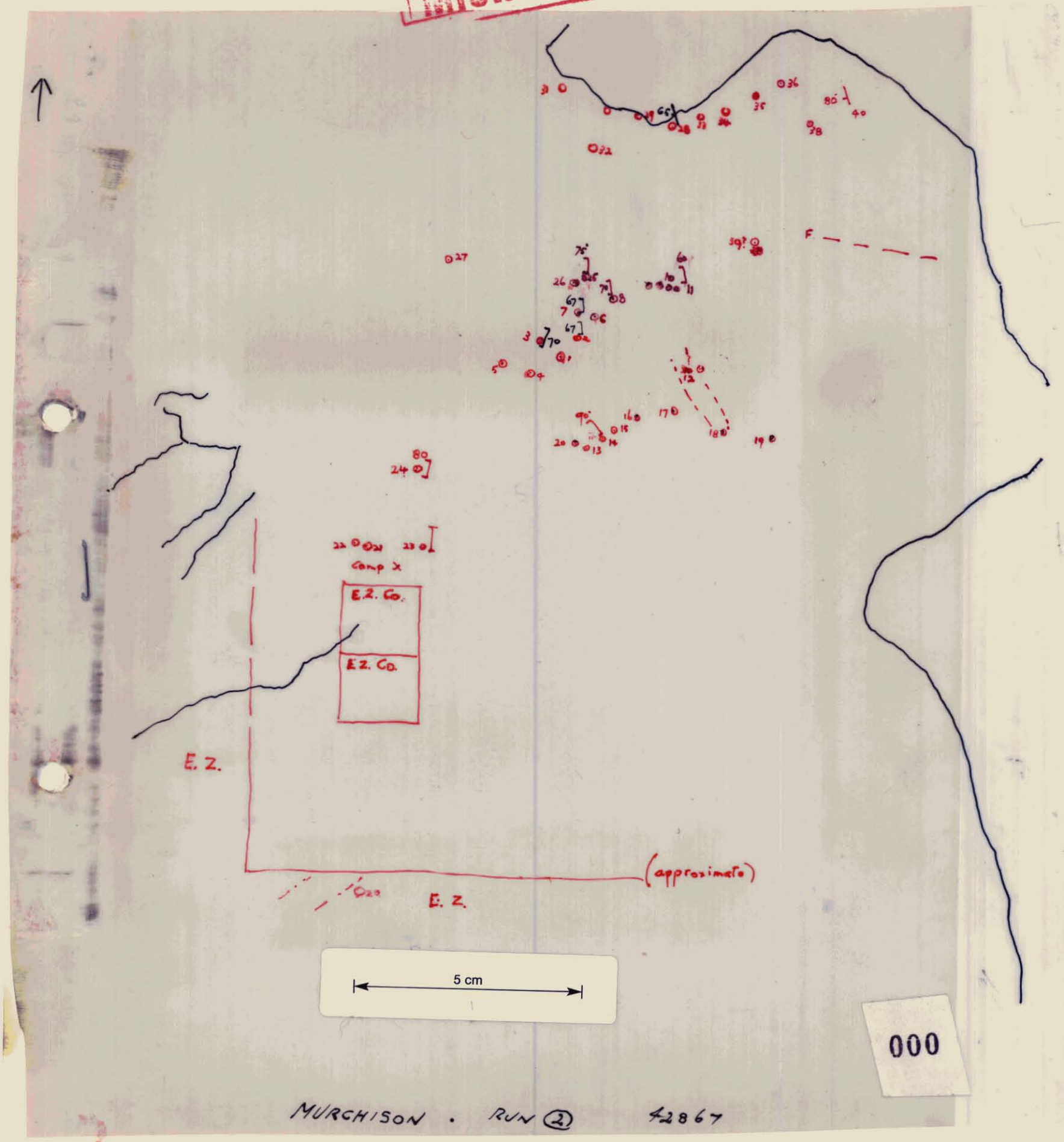
PIEMAN RUN 7 – T318-116 (7 photos)

PIEMAN RUN 7 – T318-119 (2 photos)

57-186

MURCHISON 2 -42867

450003



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MURCHISON . RUN (2) 42867

001

43007

Murchison Run 2 N°. 42867 Drew & Mattocks - March 1957.

1. ~~Quartzite (?)~~ Quartz schist; sheared Same as 6 on photo M12/31282 but darker. No strike or Dip. On tram (1)

2. Qz-chlorite schist ~~Greywacke sheared~~. Strike of schistosity 350° & dip 67W (2)

3. Quartz schist. c Qz veins & pyrite. Several trenches. Black slate in some. Schistosity str 10° & d 71°W. (3) < Qz vein

4. Black slate & qz schist. c qz veins & pyrite. Trenches &

5. ? sheared meta-sed or amphibolite; ? felspar [illegible] Qz (4) Sps (5) & between pts (4 & (5) (5) — [illegible]

6. Meta-sed? Massive rock. No strike or dip (6)

7. Qtz schist? strongly sheared with glassy angular qtz grains up to 1" diam (av. 1/8"). Included lenses of slate (black) up to 6" long x 1/2" wide. (7) Schistosity & slate inclusions str 10° & d 69W

8. Qtz schist (? Qtz porphyry) (8) Schistosity strike 345 & dip 70°W

9. Quartz-felspar schist

10. Quartz vein c pyrite. Vein is 1'w but qz & py in country (foe) rock Nth of qz vein. Vein Str 130° & d 77°N? Green staining maybe Cu. No mineral seen. Trench 20' long & 15' deep. ?Thomas' Blocks. Sp (9)

11. Quartz-felspar rock. Weathers mottled grey & red. Very massive. Surface appears like cgl. Many qz veins up to 1'w. in random dirns. & sp (10). Old adit (inaccessible. Schistosity str 340° & d 62°W. Sp (11)

12. Felspar-chlorite rock. Weathers grey & reddish. Massive. Fine grained

13. Qz-chlorite rock, schistose c porphyritic qz. ? Meta-sed. Weathered surface is mottled grey & brownish; fresh is green. Qz grains 4' & up to 1/10" sp (12)

Drew & Mattocks. 19:3:57

14. 2 rock types. (A) Quartzite (?), grey, ocps on W side; (B) Qz-felspar rock, porphyritic, fresh surface creamy. Schistosity str 315° & d 70°W. sp (13), (C) Quartzite c chlorite lineation.

15. West to East in narrow bands. (A) Quartzite? (?15' wide) (B) Meta-sed? (C) Meta-sed, greenish. Abt. 30' wide. Sp (14)

16. West to East (A). Qz-felspar rock c porphyritic qz. grs. Weathered & fresh surface greyish. 100'-200'?w. (B) Qz-felspar rock c chlorite. Porphyritic. Weathered surface grey, fresh mottled cream & green. 300'? wide. (C) Qz-chlorite rock, fine matrix, porphyritic qz. sp (15)
N.B. Qz veins mostly 1/2"w. in random dirns. frequent in all rocks

17. West to East. (A) Porphyritic qz in fine siliceous? matrix. Meta-sed? fresh surface greenish c glassy qz. Ocps between pts. 16 & 17. (B) Quartzite?, fresh surface is greyish-green. sp (16) (C) same as (A).

18. felspar-chlorite rock. c porphyritic felspar & fine matrix. ?felsite. No qz grs. on weathered surface weathered surface pinkish, fresh is pink c black specks. Pink felspar xls. 300' t wide. Ridge trends 325°m. Traced Nth for 1/2 mile. Sp (17)

19. Qz-felspar-chlorite rock. Granitic. Weathered surface greyish, fresh is dark green, sp (18)

20. Qz felspar-chlorite rock. Porphyritic. sp (19)

21. A. Pyritic fine tuffaceous sed → slate. Schistosity Str. 10°m. B. Tuff sp (20)

Drew & Mattocks 20·3·57

22. (abt 100'w of pt. 21). Massive pyroclastics. Dark green c [illegible] str. 10° & d. vert. ss (21)

23- Qz schist, schistosity str 10° & d. vert, strongly contorted.

24 Qz schist Sheared tuff(?) schistosity str. 10° m & d 80°W Qz. veining sp (22)

25. Black slate & tuff interbedded. Schistosity str 0° & d 75°W. Old working - small trench - c qz - carbonate - PbS - Py - Cute S_2 & ZnS mineralizn. Seems minor occurrence on a qz vein. Str. about 95° & d vert. (?). Sp (23) Qz schist - v. contorted - ocps 15' W.

50' West of 25. Qz. schist. schistosity. Str. 15°m & d 75°W. sp (24)

26. Schist (? Tuff.) Schistosity str 305° & d. vert. Sp (25)

27 (1.) Tuffaceous (?) Sst. ~~Grey~~; (B) Massive Pyroclastics. Only rubble found but at pt. 22. Rubble & ocp. close together ie where rubble ocp is nearby. sp (26)

28. (Sterling Bridge over Murchison R.).

Drew & Mattocks. 21-3-57

(A) Black Slate. (B) Tuff. (C) Micaceous tuff (D) Coarse tuff. Qz veins.
Strike of Bedding (?) & Schistosity 5°m & d 47°W. sp (27)
N.B. Could not find current bedding found by S. Carey to indicate beds overturned. Rocks suitable for current bedding. Small drag folds give opposing evidence for different drags.

29. Black Slate. Str. 340° & d. 33°W. Qz veins. beds contorted.

30. Tuff c Qz veins up to 6" wide. sp (28)

31. Massive pyroclastics. sp (29). On East side is similar rock to that found East at. pts 22 & 27. Prominent jointing Str. 10° M & d. 60±W

32. Qz felspar schist. (? schisted tuff.) Schistosity Str. 350° & d 80°W. Sp. (30) (? E.Z. Coy) Survey pg 240

28A. 50 yds East of 28. Interbedded slate & tuff. Str. 170° & d. 65°W. Contorted c qz. veins.

33A. 50 yds West of 33. Sp (31)

33. Qz-felspar rock (? tuff). c qz. grs up to 1/4" sp (32)

34. Qz-felspar rock. (? tuff). Phenocrysts of qz & felspar. Qz veins. sp (33)
N.B. Pt 34 possible boundary between sl & tuffs and felspathised rocks.

35. Felspar Rock. Almost pure felspar rock c some chlorite. Sp. (34)

35A Ditto. Sp (35)

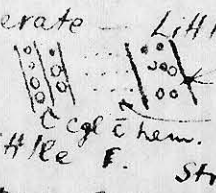
36. A. Felspar Rock c chlorite, massive.
B. Ditto but schistose. sp (36). Numerous small Qz veins. Str. 345°

37. Shaft estimated 30-40' deep on edge of creek. Ore is c PbS, ZnS, c Qz, Py & carbonates in Qtz. schist with chlorite. Sp. (37)

38. Quartz-felspar Conglomerate? Schistose. Clark & Drew. Appears to be a conglomerate of the underlying rocks.

39. Pennefather's Prospect? PbS, ZnS in felspar-chlorite rock sp (38)

40. Owen Conglomerate — Little Mt. Farrell Western rocks Str. 335° mag. dip 80°W.



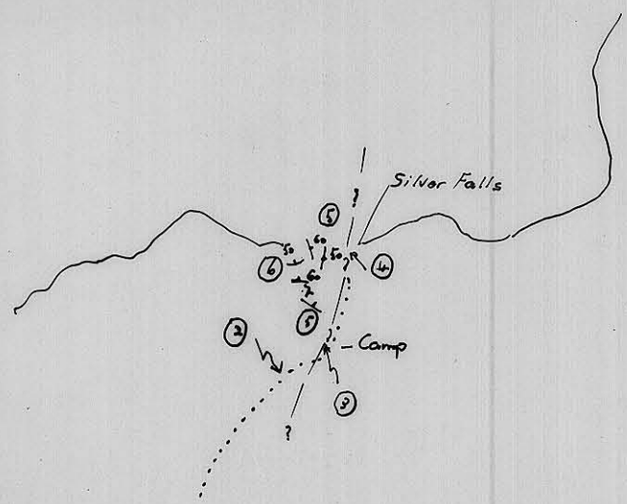
Sthn end Little F. Str. 160° & d 60°W

41. Quartz-Felspar Rock. Not Jukes Breccia

MURCHISON RUN 2 42867

450005

PIEMAN 4 – T319.108



5 cm

002

PIEMAN : RUN(4) T319.108

450006

003

Iman 1/25.

(1) Tree roots expose blocky medium grey fairly pure micaceous sandstone

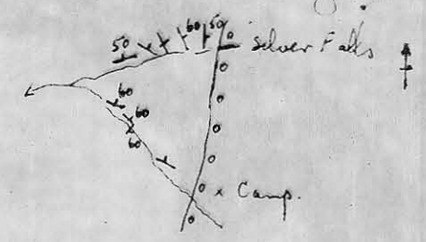
(2) Grey micaceous sandstone

(3) Massive pinkish quartzy porphyry; blebs chlorite.

(4) Silver Falls: 150 ft high, cut in massive featureless felspathic rock, variable, part grey & part pinkish (albitic). Half way up, porphyry locally shows blebs up to ½" of galena; very little alteration of porphyry. On south side, half way up, local alteration (sericitisation?) & calcite veins with galena (specimen MK12).

(5) Contact of porphyry with sediments not observed.
Grey mica sandstone-quartzite, massive, no banding, passing west to tuffaceous sandstone & (6). Bedding becomes clearer downstream.

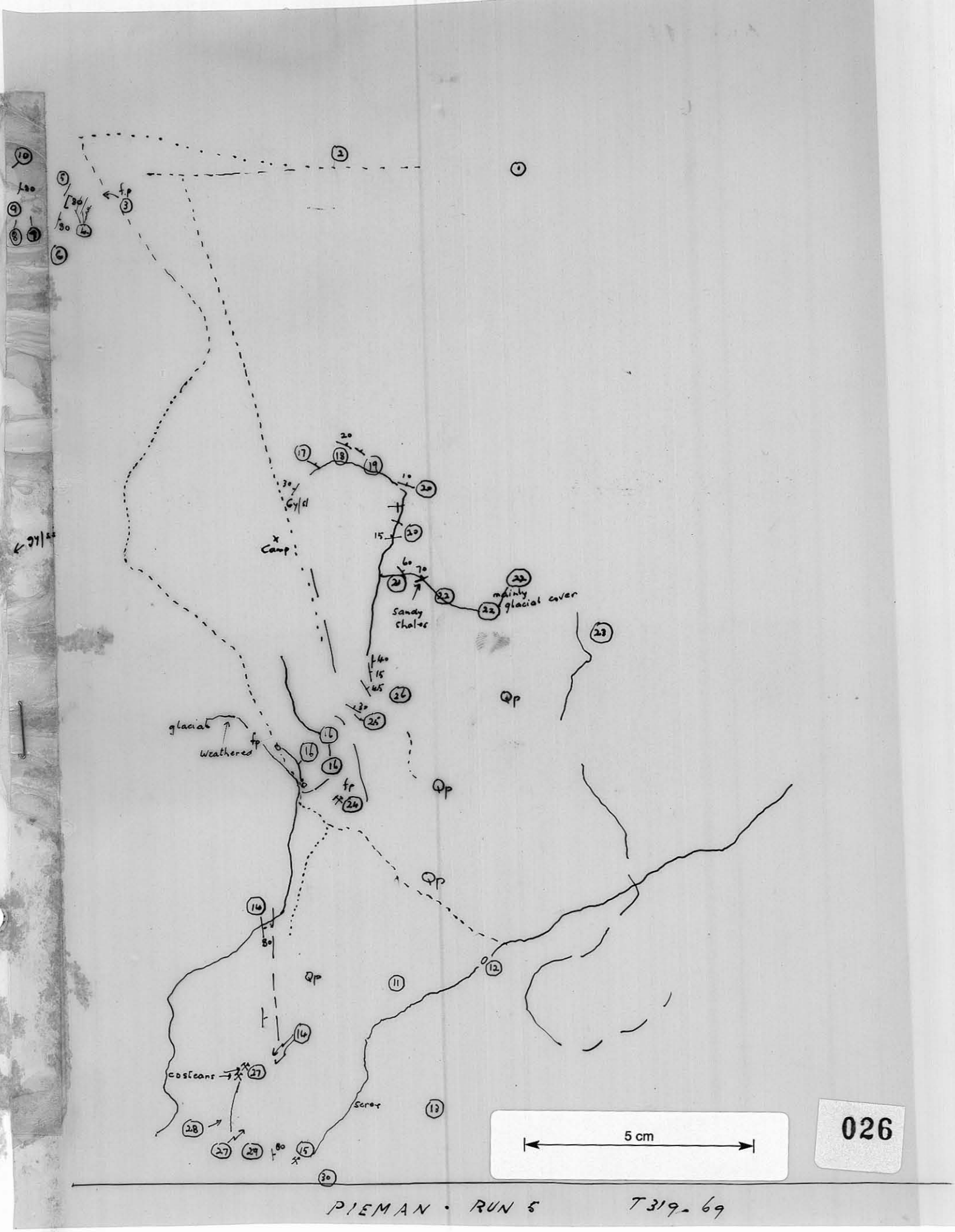
(6) Dark grey laminated slates & sandy slates, sandstone bands.



Silver Falls Mine
E of Hoskins River

Pioneer Run 4 T319-108

PIEMAN 5-7319-69 450007



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PIEMAN · RUN 5 T319-69

027

450008

M. Solomon. 1958

Loose boulder of grey quartz porphyry. Specimen MK 13

(2) Coarse pale quartz tuff alternating with dark slate; finely laminated slate 025/vert.??

(3) Pink massive qfp.

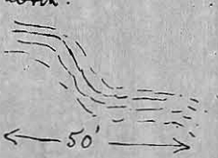
(4) Fine grey quartzite; to east: greyish qfp, q up to ½ cm diameter
to west: irregular bars of grey massive micaceous sandstone - quartzite.

(5) Dark grey slatey siltstones, massive, but a crude cleavage at 38°/80E.

(6) Micaceous sandstone, 10°/80E.

(7) Thinly bedded laminated grey-brown slate.
To west: sandy shales & tuffaceous rather gritty shales.

(8) Crumpled slatey beds, looking north:



(9) Sandy slatey shales,
160/55NE.
A little to NW: 180/80E in dark sandy slate

(10) Well bedded purplish sandy shales 180/30-70E. Faint vertical fracture cleavage, strike parallels bedding.

(11) Roots of tree show blocky grey chert.

(12) Soft weathered shale(?), cleavage(?) approx. 30° strike.

(13) Silicified porphyry(?)

(14) Dark grey carbonaceous slate

(15) Dump from overgrown working shows porphyritic cherty quartzite

(16) Chlorite-felspar porphyry.

(17) Thin bars (120/vert) of greenish tuffaceous sandstone in creek; glacial cover to west.

(18) Tuffaceous sandstone or weathered porphyry to west; to East: finely laminated dark grey slates (110/20N).

(19) Tuffaceous sandstone & grit composed of quartz grains & felspar

(20) Bedded sandy slates

(21) Grey banded slates 140/60NE. Specimen MK 15.

(22) Weathered sandy sediments.

(23) Judging from boulders below, ridge is composed of massive pink (albite?) porphyry, often streaky & apparently recrystallized by silicification. Weathering often shows streaky or ropy appearance.

(24) Costean in glacial rubble; water filled.

(25) Banded grey slate; contact with porphyry not exposed.

(26) Grey tuffaceous sandstone 175/45E. Exposures further upstream (150/15E) are of greenish impure sandstones.

(27) Costeans show creamy aplitic felspathic rock.

(28) [illegible] bedded sh[illegible]

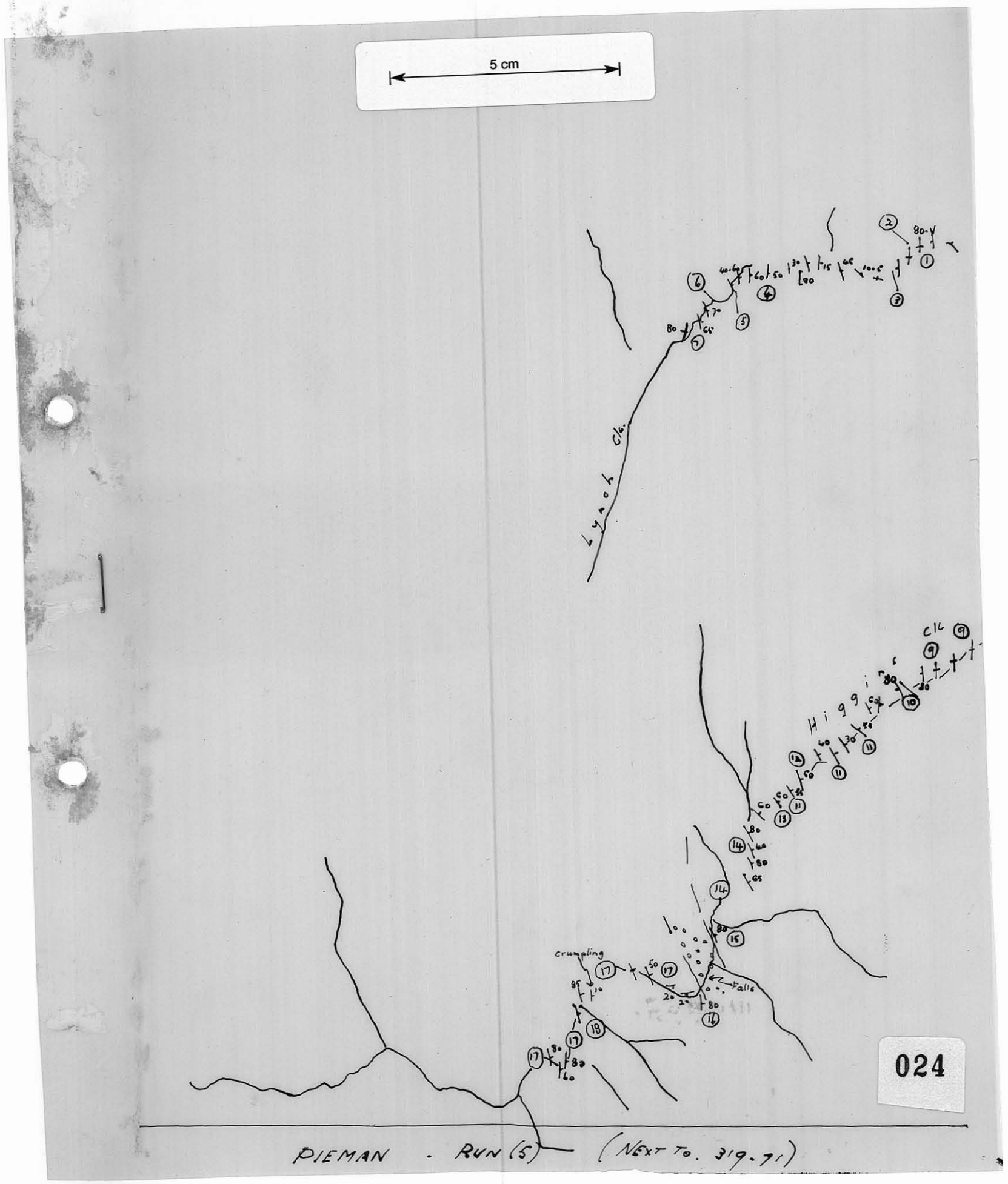
(29) Slatey & cherty rocks in costeans & in creek on BS.

(30) In creek just south of working: grey siliceous rock: disseminated pyrite (2%?).
To west: grey pseudo brecciated chert & weathered tuff.

Geological Survey 1 31 MAY 69

450009

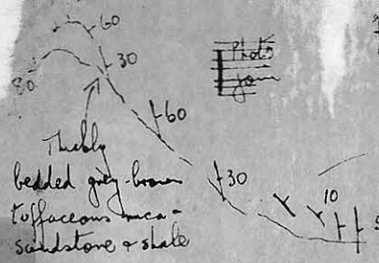
PIEMAN 6-(Next to 319-71)



024

PIEMAN - RUN (5) (NEXT TO 319-71)

M. Solomon. 1958.



To Next sheet 319-71 Pierrepont Rm 5

(1) Waterfalls of rather ~~massive~~ micaceous dense sandy micaceous tuff. 180/80-V W.

(2) Dense shaley beds, poorly bedded, slickensiding on bedding planes 180/80W

From (2) eastwards, mainly medium bedded dark purplish even-grained impure sandstone & thin dark green bands; finely banded purplish shales & sandy bands; minor dark grey shales

(3) small lenses on bedding plane decomposed → rich red clay.

(4) Thick bedded dark purplish greywacke or tuffaceous sandstone, mainly quartz with dark matter & foreign fragments.

Minor grey & purple shale

(5) 200' waterfall, very steep.

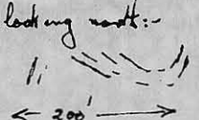
(6) Grey slaty rock; to west: massive micaceous sandstone

(7) Coarse tuffaceous sandstone.

(8) Grey quartzites crudely bedded. Steep to vertical dips.

(9) Grey quartzite & dark purplish sandy shale. Dominant strike 170/vert

(10) Thinly bedded mica sandstone; small waterfalls —— z ——→



MK 10911 11

(11) Medium bedded, banded medium grey rather indurated shale; sandy beds; & alternating shaley & sandy tuffs. Specimen

(12) Bands up to about 10' of agglomerate tuff. Agglomerate consists of an chaotic arrangement of angular to subangular pebbles in a sparse matrix; pebbles consists of quartz, jasper, quartzite, porphyry, shale etc & the matrix is often sandy. Different beds vary in grain size. Small drag folds in tuff: looking north:

Waterfall.

(13) 140/60NE; purple shales & similar rocks to (11).

(14) Brownish colored slate-shales. Creek contains many boulders of coarse & fine agglomerate containing PtC quartz & quartzite fragments

(15) Fine ⅛" agglomerate bed, succeeded downstream by brown slates (80E), succeeded by coarse pale-brown pebbly agglomerate as in (12). This verges westward to the major breccia-~~con~~ conglomerate described on adjoining photo.

450010 015

PIEMAN 6-T319-35

450011

028

PIEMAN - RUN (6) T319.35

029

455012

M. Solomon. 1958.

Punk, f.g. felsite lava, aphanitic – noted by Warren Atkinson.
(2) Costean; pale grey shale, soft.
(3) Hard pale grey quartz rich silicified porphyry(?)
(4) Barren quartz vein in silicified rock or schistose quartz. Costean.
(5) Costean; quartz rubble over soft brown clay (not asomatised porphyry?).
(6) Small exposure weathered quartz felspar porphyry.
(7) Pale weathered lightly sheared q.f.p.; quartz only a minor constituent.
(8) Dense slightly-greenish-grey felspathic rock. lava?
(9) Dense aphanitic pale recrystallised (?) felspathic rock with fine chlorite veins.
(10) To west: poor exposures slatey & quartzitic rocks Contact with Roseberry volcanics not visible.
(11) At top of rise, very sheared & altered porphyry(?) or quartzose schist with iron stains & pyrite
To west: sheared q.f.p, possibly silicified & not unlike silicified porphyry east of Pinnacles on the Burns Peak ridge.
(12) Boulders of fragments of felspar porphyry
(13) Massive green-grey felspar-chlorite porphyry; no exposure to east; similar rocks to west until (11)
(14) Very pale f.p. & few quartz phenocrysts up to 1½ mm. lightly sheared.
(15) Small waterfall. Pale nodular banded cherty rock – rhyolite? Specimen MK 9.
(16) Crumpled & crushed dark grey slates & pale thin sandy bands. No contact with porphyry.
(17) 100 west:- General strike 170/80E steepening to west. Drag folds not parallel strike pitch N @ c. 45°. Also prominent asymmetrical folds axes 90°, axial plane dips S at 60°, folds facing north, ? overturned east at about 50°. Looking west.

T31/35
F. 1 mm. 6

(17) 120' waterfall: rather siliceous slates & sandy bars 175/80-V.
(18) At top of falls & just beyond base of falls are three beds of "conglomerate" interbedded with finely laminated slates. Conglomerates described in notebook 49. Specimen MK 8.
(19) Manly laminated siltstones & sandy slates 170/80E; drag folds pitch North.
(20) Rather poorly bedded indurated shale. No outcrops to west.
(21) Grey massive altered "fused" porphyry, like west of (11).
(22) Thickly bedded sandstone quartzites; quartzites & thin shale bands; & sheared shales. Main strike 170/. Drag folds pitch N at 45°-85°.
(23) Manly sandy beds 150/20-70E
(24) Manly. Slaley beds: 10/80E-V. Looking north:
(25) Pale grey lightly sheared aphanitic siliceous(?) igneous rock. Contact with slates at 13 W

PIEMAN 6 - T319-37

450013

020

PIEMAN : RUN (6) T319-37

021

450614

Pirnan Run 6 T319 - 37

(1) Sheared felsite (180/70W); brown or pinkish in colour, pseudo-brecciated ± fine veinlets chlorite. Quartz-albite veining.

(2) Pale grey - dark grey sheared quartz felspar porphyry; weathers white. Inclusions.

(3) Sheared quartzose rock, quartz seriate schist; inclusions. Cleavage 180/65W. Eastern boundary appears to strike N 26° E.

(4) Murchison Mine; looking north in open cut:

massive fine quartz felspar porphyry; felspar-quartz tuff(?). Veins sulphide strike 20°, dip east at 70°.

Sulphides replacing tuffs + wall rocks; galena, sphalerite, chalcopyrite, pyrite.

(5) Grey-dark grey finely banded argillites.

(6) Adit in dark grey crumpled slates carrying sulphides.

(7) Slates + bedded tuffs; some gossanous quartz veins parallel to bedding (15/vert)

(8) Trenches on north side of track in slates + sandy slates.

(9) Sheared blue grey quartz felspar porphyry.

(10) Greywacke sandstone or tuff.

(11) Pale green chloritic - sericitic felspar rock; cleavage 180/65W. Locally purplish in colour.

(12) Sheared dark green-grey fine quartz felspar porphyry, merging to sericitic - chlorite - felspar schist containing chlorite in blebs parallel to schistosity (180/70W) + inclusions of fine pale material aligned ∥ schistosity up to 3" long + 3/8" wide.

(13) Felsite of (1), irregularly chloritised + sparsely pyritic; pink-green rock. Specimen MK7 locally dark brown in colour + not chloritic. Local heavy quartz - albite veins.

(14) Hematite (micaceous) - chalcopyrite veins + blebs in felsite. Hematite in quartz - albite veins.

The dark felsite often weathers to a pale grey schistose rock!

(15) Sheared quartz-rich felsite ± lenses hematitic shale (?).

(16) Poor exposures pale green chloritised sheared greywacke conglomerate (?). Basal Owen here is a very coarse breccia conglomerate, boulders up to 18" diameter. At base, up to 40% Dundas sheared rocks as pebbles - transition upwards to conglomerate of entirely siliceous pebbles.

(17) Cambrian or Jukes beds, sheared, below coarse Owen Conglomerate.

(18) Adit; portal in massive felspar rock, adit in dark sheared slates.

(19) Pale grey felspar rock, massive, quartz veinlets.

PIEMAN 6-T319-37

450015

022

450016

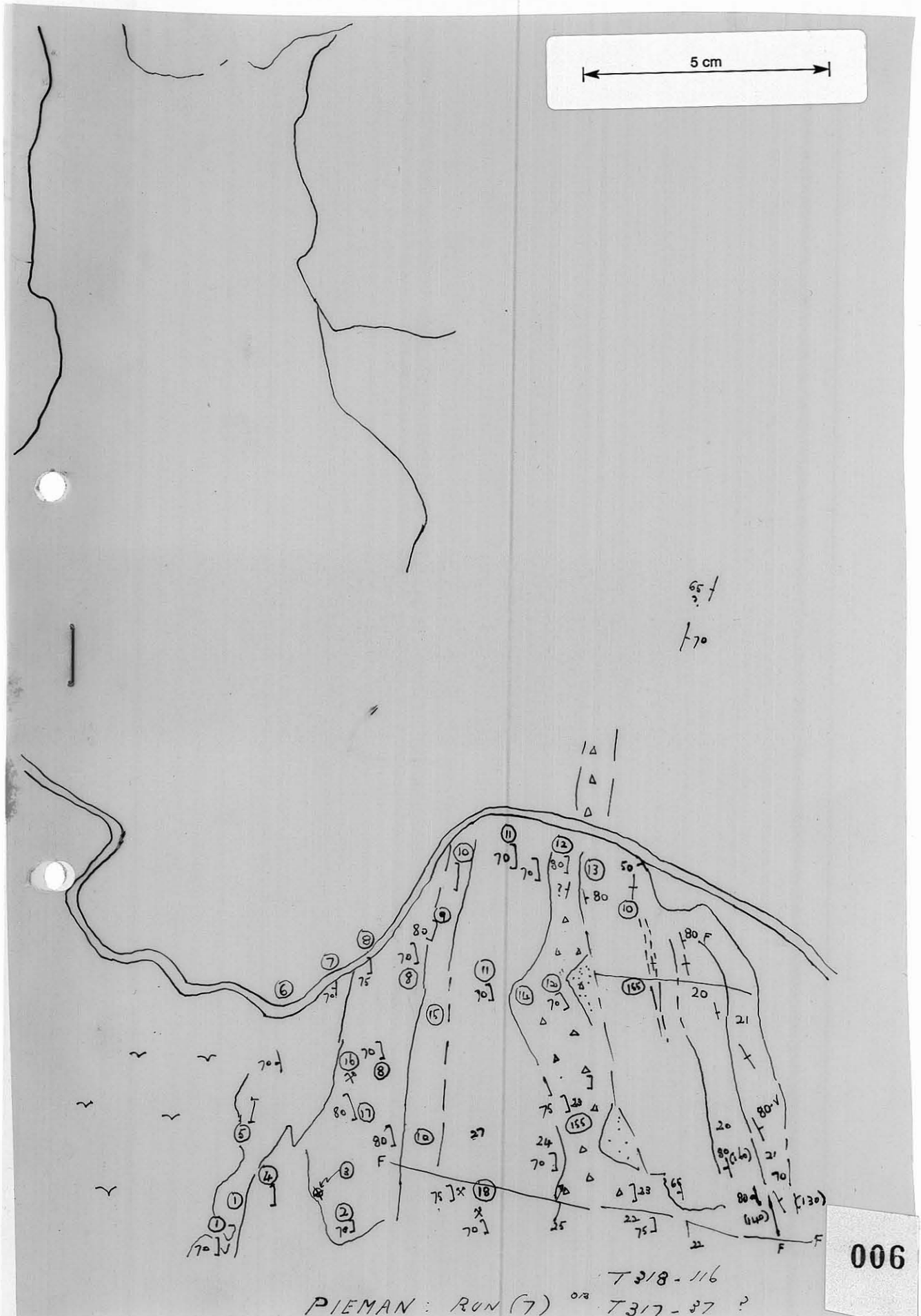
1 Sheared grey green [illegible] q f p (160/75 W)
2 Schistose quartz schist
3 Quartz (1 cm) felspar tuff, sheared (175/80 W) ± lenses of micaceous slates (bedding 175/80 W).
4 Schistose quartz schist ± angular fragments quartz + chert; definite rounded quartz pebbles. Shearing 175/70-80 W.
5 Alternating felspathic tuff, pale & dark grey siltstones & shales. Bedding 175/80 W.
6 Adits running N & S from creek in sheared slates with tuffs. Bedding 175/80 W, "lode" parallel. "Lode" consists of quartz veins cutting slates.
7 Small digging in quartzose sericitic rock; to west, mainly quartz felspar tuffs with minor slates. Bedding 180/80 W
8 Fairly massive but finely sheared (10/80 W) fine q f p; bedded rocks to E & W.
100' to west: massive tuff felspar rock - "massive pyroclastics". 25' west of this boundary, adit enters north bank ± 90°; cut in sheared felspar rock with quartz veins.
9 Fine sheared yellowy green felspar rock, quartz veins
10 Adit (105°) cut in banded dark & pale grey shale; west of portal: sheared fp.

T 319-37 Permian Run 6

023

450017

PIEMAN 7-T317-37 & T318-116

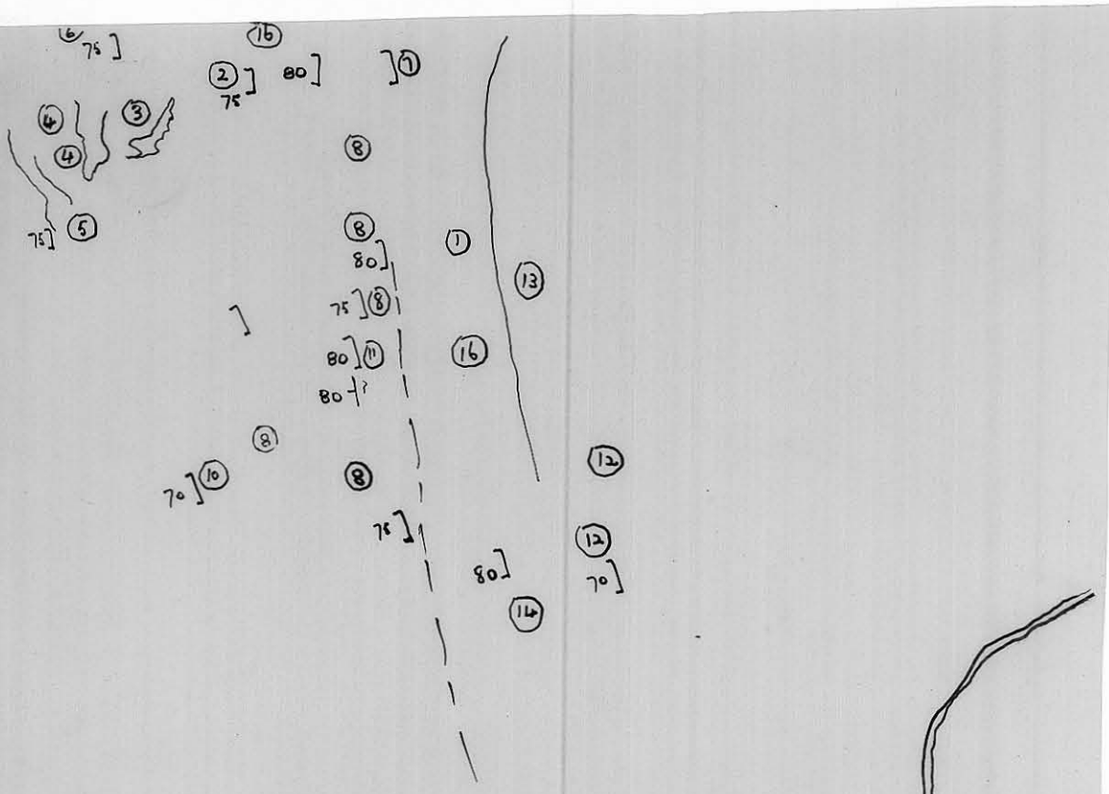


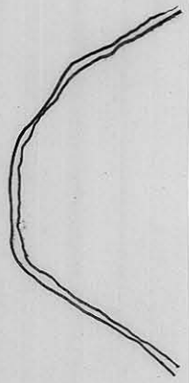
T318-116

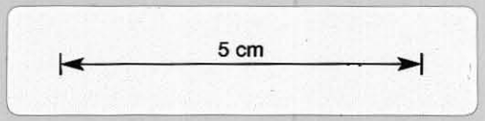
PIEMAN: RUN (7) on T317-37 ?

006

PIEMAN 7-T318-116 450018







007

PIEMAN: RUN (7) T 318-116

For numbers 19-27 (unranged), see bc.

Alternating grey fine & coarse tuffs; fine varieties are slatey. Have fragments, which are generally aligned parallel to cleavage, up to [illegible] m. Bedding parallel to cleavage at 175/75 W. On tram in this area, rocks similar to (2) on alternate photo, are exposed i.e. sheared quartz felspar porphyry or quartz-knob sericite schist.

1) Coarse quartz felspar rock, sheared & kaolinised locally entirely pale grey felspar. Cleavage 170/70W.

2) Short trench (?) on (2). Quartz veining locally. To west: brown & grey felspar porphyries. ~~T318-116~~ (or T319-37?)

4) Fairly sheared sericised coarse quartz felspar porphyry. Iron stained at surface

5) Sheared weathered quartz felspar tuff or porphyry?

6) Dark blue grey finely banded slatey argillites (Miners siltstones) Bedding 180/60W, parallel to cleavage.

7) Sheared sericitic rock = "phenocrysts" quartz (up to 4 mm diameter) & felspar; tuff?
Dh2 dark grey siltstones & sandy shales locally sparse pyrite, calcite veins

8) Eastern limit bedded rocks, 150' west of HEC gauge. 40' gap between these & sheared quartz felspar porphyry showing small slatey inclusions. Bedding 170/70 W. Cleavage 175/75W.

9) Fairly massive dense blue grey rock, albite, chlorite present. A few quartz veins.

10) Crudely developed shearing in massive punkish dense felsite. chlorite specks, hematite?

11) Sheared coarse quartz felspar porphyry

12) (11) merges east to conglomeratic rock, sheared & pebbles indistinct. At (12), pebbles to Owen conglomerate, pebbles better defined. Many are of hematite, subangular from 1/4" – 1 1/2" diameter; others are of felspar rock & others are nondescript schistose rocks. Poorly sorted, plentiful sheared matrix

13) Owen Conglomerate base: alternating bands medium-coarse and very coarse siliceous sub-angular pebble conglomerate. Boulders Cambrian lavas. Bedding 175/80E. 30' gap west to (12)-type rocks with pebbles quartzite & hematite; a suggestion of a bedding strike 5°, steep dip.
Lower Owen contains small pebbles hematite.

14) Sheared conglomeratic rock, greywacke Jukes-type but pebbles indistinct. Shearing 170/70W

15) Highly sheared fine grained felspathic rock, chloritic, reddish stain at surface. Cleavage 155/80W

16) Shaft 30'? deep in sericite quartzose schists with quartz-sphalerite-galena veins probably parallel to cleavage & no greater than 6" thick. Some pyrites & chalcopyrite. Thomas' Blocks.

17) Sheared kaolinised quartz felspar porphyry. Rhyolite – see also (2)

18) Upper eastern adit, about 80° in mainly blocky dense hard felsite, some sericitised rock (= some chalcopyrite & pyrite) along joints & irregular replacements. General cleavage (160/70W) Lower adit. 80° Galena in felsite & sericitic schist. Qtz-albite veins. Outcrops buff felsite above adit

Perne Fathers Prospect

1) Grey-white quartz-sericite schist, quartz as prominent crystals up to 4 mm diam. Cleavage 170/75W

2) Massive brown keratophyre composed of buff felspar & minor dark green chlorite. Also grey basaltic types. A few thin quartz veins.

3) Sheared grey quartz-felspar porphyry, phenocrysts quartz up to 2 mm, cleavage 160/80W. Locally heavy white quartz veining.

4) Slatey finely bedded rocks, some shaley others siliceous.

5) Sheared part-sericitised fine quartz felspar porphyry

6) Sandy tuff, dark grey

7) Lightly sheared fine albitised felspar rock; punkish color; intermingled with coarse quartz felspar porphyry

8) Mainly massive punkish albite-rich rock; some quartz phenocrysts

9) Massive punkish felspar rock, crudely developed cleavage 150/75W. Banding (bedding?) in one or two places: 170-75/80W. Locally studded with quartz phenocrysts up to 4 mm diameter

10) Top of cliffs: dense buff felsite with phenocrysts quartz & chlorite up to 3 mm diameter. Very weak cleavage 155/80W.

11) Punkish quartz porphyry, felsitic = local irregular blue-grey argillaceous(?) zones. Cleavage 165/80W.

12) Pale blue grey, weathering white, quartz felspar porphyry, pseudo-brecciated. Locally is a mass of quartz phenocrysts up to 5 mm diameter

13) Massive blue grey felspar or quartz felspar porphyry.

14) Punk felsite, typical of Darwin area; looks conglomeratic locally with distinct fragments of felsite in a felsite base.

15) Variable porphyries, much like (14)

16) 20' long cut in sheared green (chloritic) quartz felspar porphyry, phenocrysts up to 5 mm. Cleavage 180/70W. Ker Vein up to 9" wide of quartz-chlorite-chalcopyrite; lenses out along strike & in depth. Blebs chalcopyrite in hanging wall; strike 140/80NE

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PIEMAIN 7-T318-116

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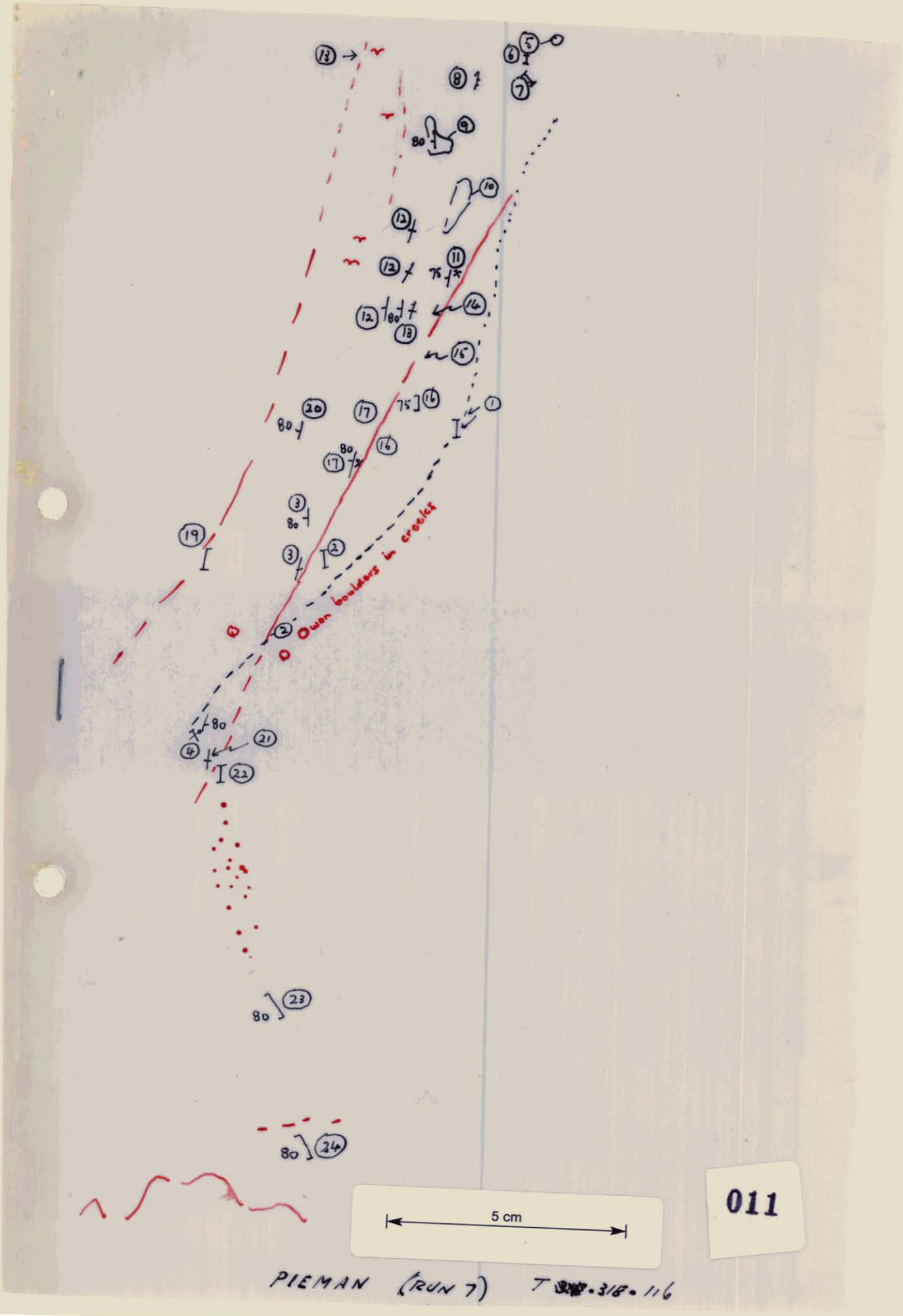

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PIEMAN (RUN 7) T318.116

PIEMAN 7 - T318-116

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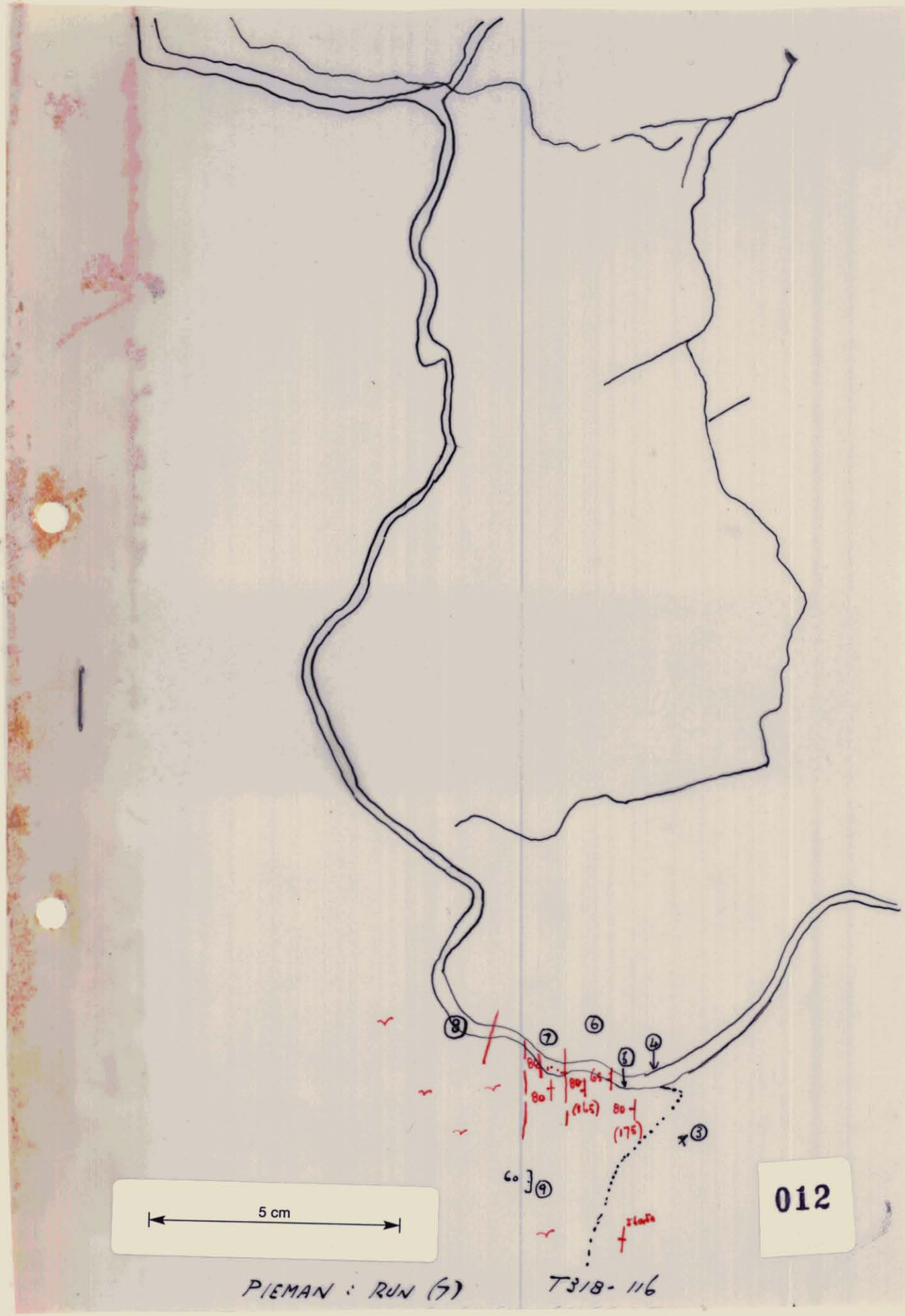

(1) West of workings: sheared soft pale grey felspar porphyries, like some Rosebery footwall rocks cleavage 155/70W. Interbedded with massive felsitic rocks.

(2) Lower adit in sericitic schists & felsite. Outcrop above portal shows heavy quartz veining in buff felsite showing specks galena.

(3) Adit: 115': sheared quartz felspar rocks - tuffs or porphyries. Probably slates to west. Galena, sphalerite, minor chalcopyrite & pyrite in quartz veins & silicified host rock

(4) Sheared felspar porphyry bed, 20-30 ft thick, interbedded with Murex Siltstones, fine tuffs, & greywacke silts & fine sands

(5) Quartz (2-3 mm diameter) & felspar crystals form bulk of this sheared rock, with spare matrix cleavage 180/80W. Dark grey slates locally pyritic, to west. Cleavage parallel to bedding.

(6) Dark slates crumpled by quartz veins; flat dips, some to east. Confused

(7) Grey massive micaceous sandstone (greywacke) or sandy tuff. Quartz veins. Bedding & cleavage 160-165/70W. Flat Hummocks on north bank appear thus:

(8) Massive felspar porphyry.

(9) Sheared dark brown sandy tuff or greywacke sandstone. cleavage 180/80W.

T 319-32

T 318-116
Seven Run 7

(1) Sheared pale grey quartz porphyry with siliceous base. Rhyolite

(2) Ditto, heavy quartz veining parallel to schistosity. Boulders Owen conglomerate prevalent.

(3) Rather crumpled slatey rocks, finely bedded; dominant strike (15°) confused by small drag folds & faults.

(4) Sterling Valley Mine. Workings consist of a vertical shaft; an adit below, & an adit above collar of shaft. Cut for shaft shows black, carbonaceous, thinly bedded slates on east side, and pale grey sericitic schists on west side. Pyrite disseminated. Ore (pyrite, galena, sphalerite) occurs in quartz gashes & in crumpled, squeezed slates.
Higher adit is 50' east of shaft & 50' above it; enters at about 200° in slates torn by quartz veins & carrying pyrite
Lower adit is 30' south of shaft & 15' below it; enters at about 110° in sericitic rocks

(5) Lens of sheared felspar porphyry in slates & tuffs. Porphyry slightly sericitised.

(6) Sheared quartz felspar porphyry & lenses & fragments dark siltstone. Cleavage 160/vert.

(7) Sheared felspar porphyry & fragments foreign material; bedded argillites, quartz siltstones. Cleavage 135/vertical.

(8) Dark grey slates, grey tuffs, & sandy rocks. Locally gossanous. Cleavage 15/vert; parallel to bedding?

(9) Dark grey quartz siltstones, sheared. Fine bedding shown up by thin (1-3mm) quartzite bands or laminae. Local folding shows steep south pitch. Cleavage & dominant bedding strike: 175/80W

(10) Dark grey slate rubble

T318 - 116

(11) 50 ft trench; 6' wide; up to 20 ft deep; strike 95°; across top of rise. Dark grey slates & some sheared grey quartz felspar porphyry, crushed & gashed by quartz veins carrying pyrite, & by a 1 ft. wide pyrite quartz veins carrying chalcopyrite & galena, & striking 10°/75W, parallel to bedding in slates. No exposure to east of rise - probably in sheared volcanics. Fulfords Claim

(12) Dark grey-green sheared tuff, sandy slates & impure sandstone. Bedding & cleavage 20/vert.-75W

(13) Dark grey sheared slates, almost phyllitic, movement on cleavage faces. 10/vert-80W.

(14) Sheared grey kaolinised felspathic rock with lens dark slate up to a few inches long aligned parallel to cleavage

(15) Massive fresh grey felspar rock with irregular blebs dark chlorite; locally albitic.

(16) Sheared pale grey felspar rock, cleavage 165/75W

(17) 6' trench in sheared dark slates; a little pyrite. Bedding & cleavage 15/80W.

(18) After Drew - Mattocks (1957): Rubble shows grey tuffaceous sandstone & "massive pyroclastics"

(19) " " " " " : To west: dark green felspar porphyry
To east: pyritic fine grained tuff. Cleavage strikes 10°

(20) Sheared tuff (?). cleavage 10/80W Quartz veining

For numbers (21)-(24), see book 46, p. 6. M.S. 1958.

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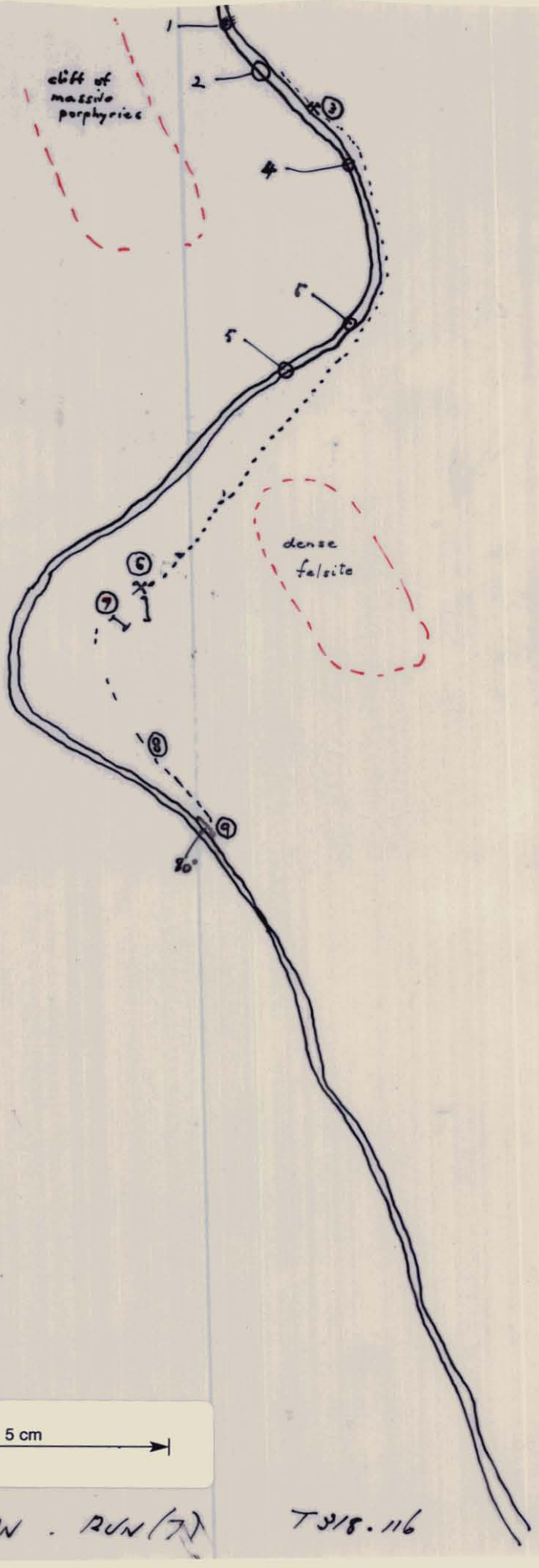

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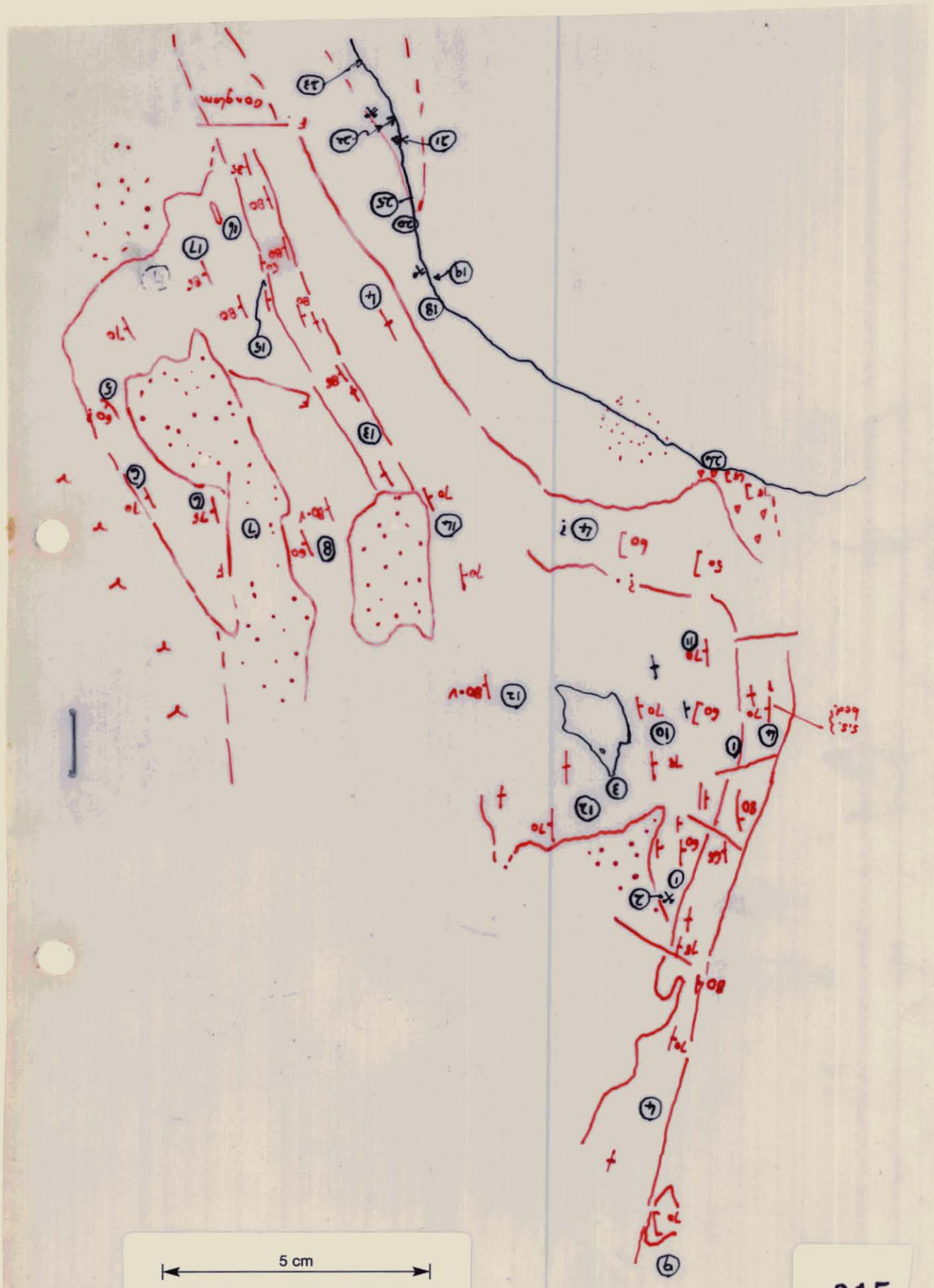

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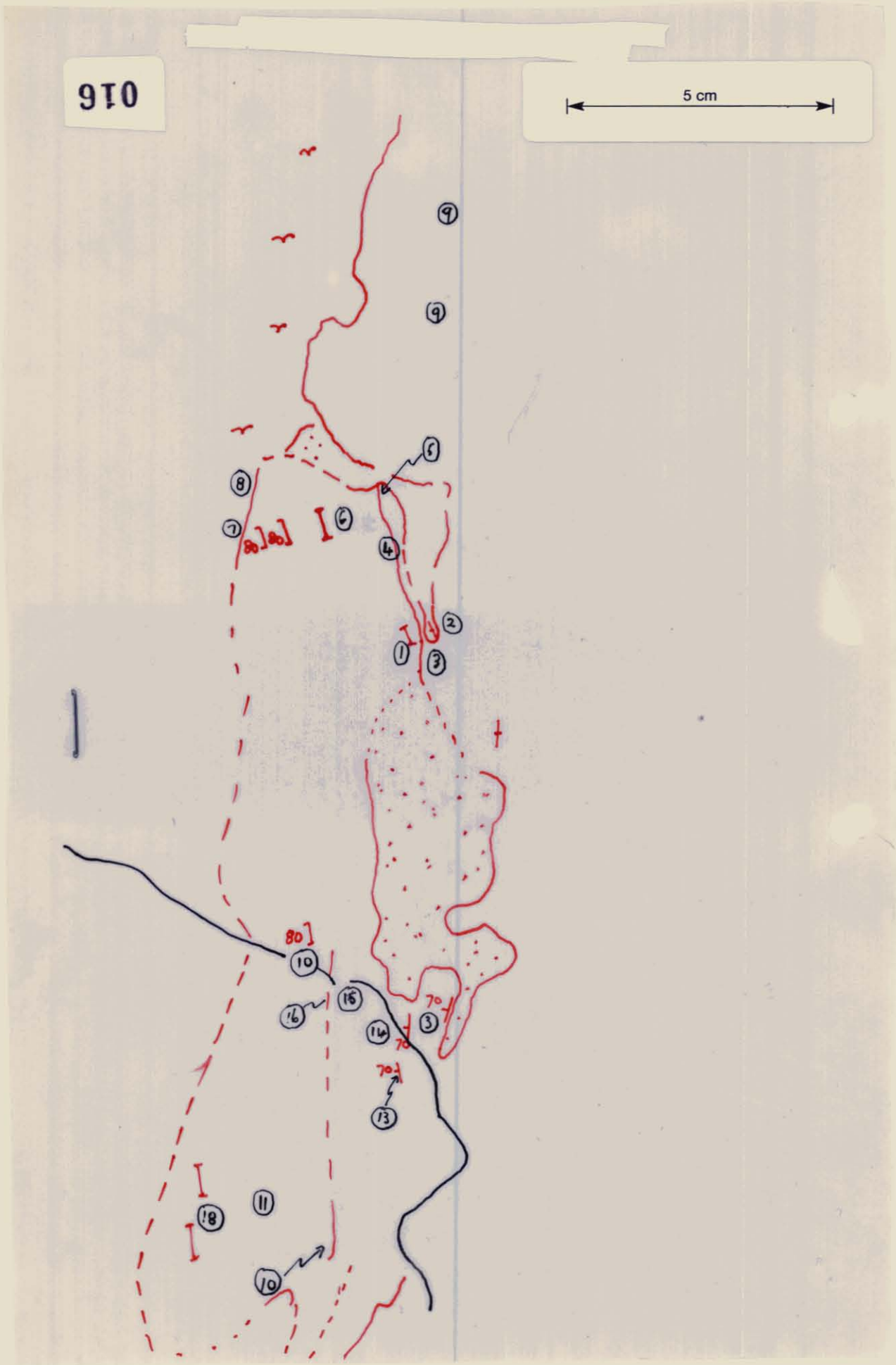

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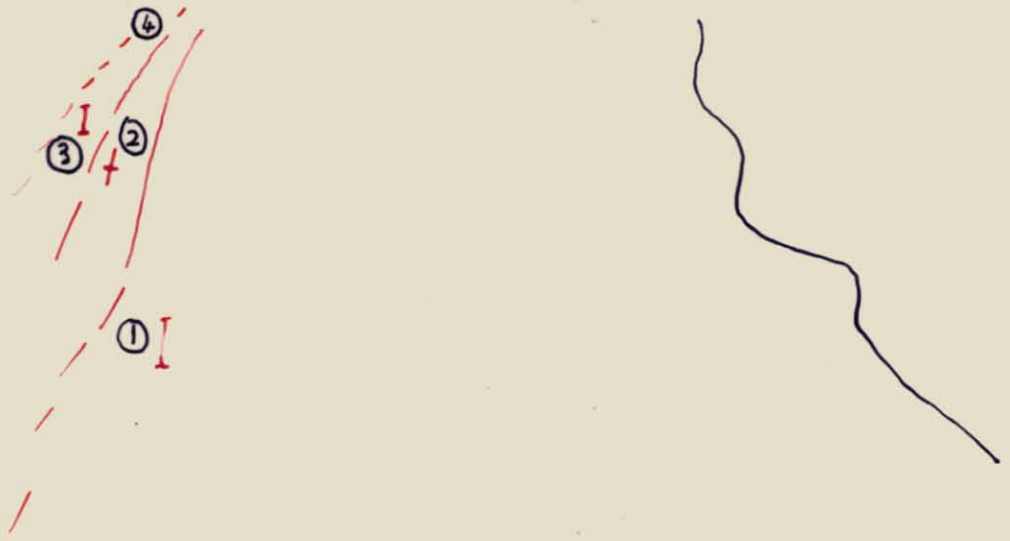

5 cm

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PIEMAN : RUN (7) T318-116

(1) Sheared quartz felspar porphyry, fine quartz phenocrysts. Locally with angular fragments of Pt rocks up to 1½" diameter. Cleavage 160/vert. Rests directly on Pt quartzites

(2) Very finely banded quartzite & alternating quartzite & dark shale (Pt). Bedding 140/80W.

(3) Pt crumpled quartzites

(4) Coarse-med. grained sandstone with angular grains (grit). Pebbles quartz up to 1" diameter. Rests on Pt, often in small embayments in the old surface.

(5) Quartz veining in Pt of (3).

T 318-116

(6) Brown grey quartz felspar porphyry, phenocrysts average 1 cm. Locally pseudo-brecciated, with fragments Pt & lava. Massive or schistose (160/vert). To west, variation in quartz content; albite common. Local surface iron staining.

(7) Lens of grey quartz grit at top of Dundas sequence. Poorly sorted with pebbles of quartz. Equivalent of Owen formation.

(8) Fine grey quartz pebble conglomerate; sandy, rounded quartz grains.

(9) Massive coarse quartz felspar porphyry

(10) Small outcrops felspar porphyry

(11) Coarse quartz felspar porphyry, massive

(12) Fine grained rather dark grey lavas; locally albitic. Specimen. Cleaved (150-160/vert)

(13) Confused (to the writer) zone in which edge of Pt rocks difficult to determine e.g. at these points:- 2.25

3. 10'± pebbly (quartz) beds, impure sandstone
2. 10': felspar porphyry, massive, weathers brown.
1. 20'±: Alternating quartzite, sandy shale(?), fine conglomerate like 3.

(14) Overlying typical Pt quartzites: crumpled dark to medium grey finely banded argillites & thin quartzite bands. Occasional thick quartzites. At top, mainly shales. c 500'(?) thick.

(15) Poorly outcropping shales & felspar porphyrites(?)

(16) Thinly bedded medium-dark grey quartzites & dark grey shaley beds. Like 14

(17) Coarse massive (v. poor cleavage 160/80W) quartz felspar porphyry. To west, grading to mature felspar porphyries (with some quartz), grey tuffs, & dark grey shales.

[illegible] quartzites, trending 180°

(2) Dark grey indurated shaley beds & thin quartzite bands. Poor outcrops. Strike 180/vertical.

(3) Fairly massive, grey, impure sandstone, locally conglomeratic with milky quartz pebbles up to ¼". Locally bed shows fragments mica schist, shale of (2). No outcrop to west.

(4) Beds like (3) contain crumpled finely banded quartzites like Pt. Start of confused zone described on photo segment to north.

Pieman River

T 318-116.

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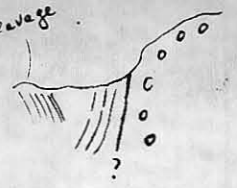
Run 17 T318-116

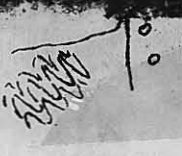
Piemman

1. Grey shales to thin sandstone beds, looking south:-

2. 15' adit in shales, looking south:-



T318-116



For numbers 18-24 see book 46, p. 10. M.S. 1958

3. Alternating Upper Owen-type "tuberculer" sandstone & coarse-medium grained grey conglomerate.
4. Massive white coarse conglomerate. Bedding in this & also in (1) & (2) strikes & about 175°, across the line of ridge.
5. Coarse grey conglomerate-breccia.
6. Pink & grey sandstone-quartzite; quartz veins.
7. Steep face, heavy quartz veins.
8. Pink coarse conglomerate alternating with pink-grey quartzites.
9. Fairly sheared lava; pink-grey, variable texture. Scattered quartz phenocrysts, white prevalent as disseminated replacement. Quartz-felspar veining. Local hematisation. Gap of 50' in exposure to east, then coarse conglomerate (Owen) with minor sandstones.

Cleavage in lava 160-170/80-75 W.

10. Alternating coarse conglomerate, white or pink quartzite, & grey shale. Closely folded, crumpling in shale with cleavages dipping west as low as 55°, & striking N15°E. Typical fold, looking north:

11. Closely folded beds as in (10). Axes strike 160-180°.
12. Coarse-medium pink-grey breccia conglomerate & pinkish sandstone.
13. Mainly pink sandstones
14. Coarse conglomerate, locally bouldery with units up to 18" across. Fairly well rounded.
15. Rather sheared, locally highly sheared, coarse-medium conglomerate. Dips to west
16. Sheared felspar porphyry, some quartz phenocrysts. Irregular replacement by hematite. Purplish colour when fresh but weathers characteristic buff-brown. Heavily loaded with fragments up to ½" diameter, of nonkerogen character.
17. Very coarse conglomerate. One [illegible] quartz felsite

17. Fairly coarse biotite syenite. To east: pale grey sericitic sheared ff.
18. Digging in syenite & massive pyrite; very localised alteration in syenite
19. Coarse-medium approx. equigranular, 70% pale green & pink felspar, remainder biotite & dark ferromagnesian mineral.
20. Pinkish syenite; pink felspar > grey felspar. Track climbs through dark dense chloritised felspar porphyry, then under cliffs of hard dense dark quartz felsite
21. Position uncertain; adit 130° showing local mineralisation as veinlets & irregular replacements in sericite-chlorite-felspar schist & grey-green felsite. Mineralisation mainly hematite & chalcopyrite & galena. West of adit, mainly green chloritic rocks with pyrite, poorly cleaved.
22. Dense grey-green quartz felsite, reddish [illegible]

From (7) to (8): dense dark felsites, pyritic-chloritic rocks, & chloritic fine quartz felspar porphyry. At (8), rock is quartz-felspar rhyolite-granite type as at old cage position: gorge in massive quartz felspar rock, greyish & almost granitic (specimen). Crude lineations, some "mullions" at decked along 145/80 W. Pale green-yellow veinlets.

Locally a crude porphyritic texture & abundant rounded phenocrysts in a sparse matrix; pyritic; veinlets calcite & yellow-green chloritic material.

Probably these are acid-intermediate lavas.

Some quartz veins with apparent baking of lava => aplitic rock.

PIEMAN 7-T318-119

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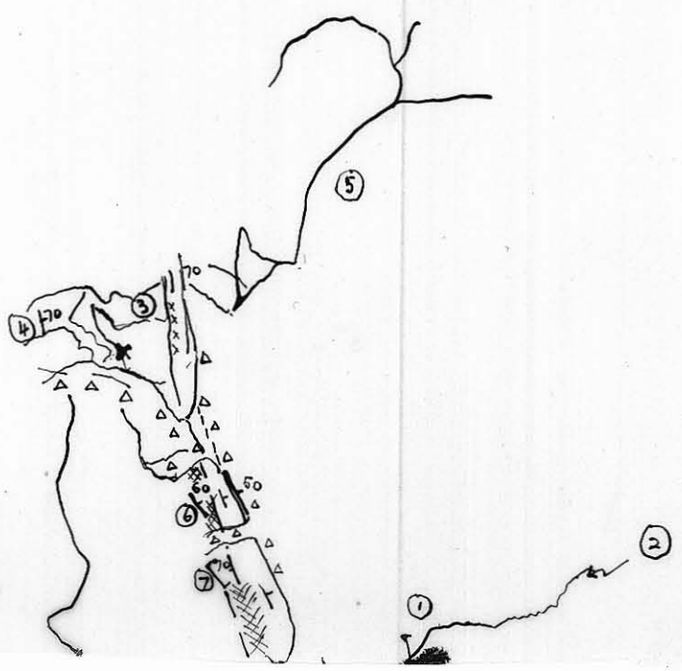
5 cm

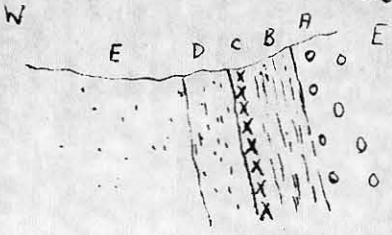


M. Solomon '58

① Sheared rather kaolinised & slightly chloritised felspar rock. Most of track to ② is covered by an assortment of fresh felspar porphyries in boulders, rudely cemented together. One granite boulder observed – like Heemskirk or granite tor; suggests material is glacial.

② Diamond drill site in rubble.

③ W

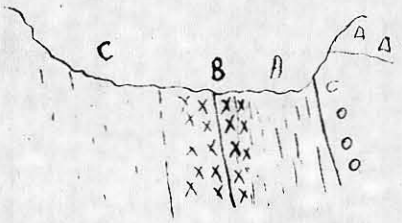


A: Creamy felspar rock
B. Black carbonaceous slates, pyritic. 150'
C. At base of B. pyrite-chalco- etc replacement of slates; bedding preserved. 10'
D. Sheared pale grey felspar porphyry, sericitic. Barren. Locally quartzose, locally argillaceous. 50'
E. Massive kaolinised felspathic rocks, some porphyritic

④ Creamy altered porphyries, bedding(?) shown by alternations pale grey, green-grey, & pink chlorite felspar porphyry. 3' cover of glacial material.

⑤ Local glacial material over "massive pyroclastics."

⑥



A. Black slates, apparently under massive pyroclastics
B. Pyrite, galena, sphalerite enriching slatey well-bedded rocks & also quartz-sericite schists – bedding preserved as in Lyell Comstock mine. Schists like Lyell schists. Mineralisation replaces slates & possibly tuffs immediately below.
C. Pale grey sericitic schists, some quartzose. Footwall rocks.

⑦ Pyrite stained sericite schists
Cleavage 135/75 NE.

⑧ Horizontal glacial striae on cleavage face to east

See photo to South (numbers in red & black):

⑨ Sheared felspar porphyries.

⑩ Sericite, locally quartzose, schists – Rosebery footwall rocks, part tuffs & part lavas with rare slatey lenses, gradually increasing to west.

⑪ Felspathic & sericite schists c. 1' thin slatey lens (dip 80W)

⑫ Irregularly jointed sheared rocks, part sericite, part quartz-sericite. Typical footwall rocks.

⑬ Green-grey & dark grey finely banded slatey rocks & tuffs

⑭ 12 ft. quartz-chlorite-sulphide breccia zone. Cuts across sheared pyritic sericite & quartz-sericite schists.

⑮ Massive fresh felspar rock; many thin quartz & chlorite veinlets.

T318-119
(error Rm 7)

PIEMAN RUN 7 T318-119

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5 cm

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PIEMAN RUN (7) T318-119

450032

M. Solomon '58

1. Pale grey felspar rock with blebs chlorite. Vesicular? Massive, irregular jointing.
2. Grey-white felspar rock, fine grained, no ferromagnesians, bluish films (chlorite?) on joint faces.
3. Fragmental; elliptical lenses, up to several inches long diameter, of pale felspar porphyry distributed irregularly in darker felspar porphyry. "lava in lava."
4. Amygdaloidal lava; grey-blue aphanitic felspar rock + lenses & stringers of calcite, & lenses of calcite lined with chlorite, or of chlorite only.
5. Whitish felspar rock, fine grained, little or no ferromagnesian mineral.
6. Soft brown-grey rock, partly soft kaolinised felspar & partly felspar porphyry with irregular silicification.
7. Massive (jointing negligible) grey felspar rock, fairly kaolinised; locally with pellets of chert (?) up to several inches diameter, & porphyry (often with a thin rim of chlorite - reaction rim?). Lava.
8. Diamond drill site in sheared felspar rock with patchy green coloration due to chlorite.

T 318-119 Cuma Run 7

9. White-grey quartz schist, locally pyritic. Schistosity 150/50 NE. Quartz-chlorite veins
10. Pale greenish grey slightly sericitised (?) felspar rock, faint signs of cleavage in otherwise massive rock. Quartz-chlorite veins - chlorite & quartz alternate to give banded effect.
11. Quarry; irregularly jointed pale grey felspar rock with irregular chlorite veinlets & stringers. Similar to 1.
12. Buff massive felspar rock, many tiny quartz veins & quartz-chlorite veins
13. Creamy massive felspar rock, faint suggestion shearing 180/vert. Chlorite & quartz veinlets; locally concentrated & thick. Porphyritic texture locally.
14. Porphyritic, altered felspar blebs in a slightly sheared sericitic (?) or siliceous (?) base. Also locally kaolinised & silicified like 7; locally chloritised & in places heavily veined by quartz & dark green chlorite. Fairly high grade hydrothermal alteration.
15. Dry shaft, 20' deep. In slightly sheared albite-rich porphyries. Dark chloritic zones show pyrite.
16. Trenching in quartz-chlorite veins carrying pyrite. Veins strike 20/85 E.
17. Variable porphyries, from pale keratophyres to dark basalts. Local quartz-chlorite veining.
18. Sheared creamy felspar rock; a local shear zone.
19. Sheared cream felspar rock, iron staining at surface. Cleavage 165/70 E.
20. Like 7 but more sheared. Silicification, sericitisation, & kaolinisation. Locally siliceous, but not quartz schist like 9.
21. Sheared kaolinised felspar rock, similar to 20 but more obviously felspathic.
22. Sands & gravels, horizontally bedded.

Locally sheared felspathic rocks; chloritic, locally calcitic. Qz-chlorite veins

Most numbers are photo locations