MAP 4. GEOLOGY OF THE MT MURCHISON AREA

A. W. McNEILL B.Sc. (Hons).

1 0.5 0 1 2 km

SCALE 1 : 25 000

QUATERNARY

- Qc — Cultural features — waste dumps, dams, etc.
- Qt — Talus and scree deposits.
- Qa — Alluvium and marsh deposits.
- Qg — Pleistocene glacial deposits mainly till. Occurrences of dolerite (⊕ Qgd) and granite (⊕ Qgg) erratics indicated. Moraine ridge crests indicated (• • •).

Angular unconformity.

OWEN CONGLOMERATE = DENISON GROUP

EARLY ORDOVICIAN —LATE CAMBRIAN

- €Oou — Upper sequence of generally pink sandstone and granule-pebble conglomerate with subordinate siltstone; clasts of pink chert common. Some units of grey sandstone, siltstone and interbedded conglomerate (€Ougg) and coarser pebble-cobble conglomerate (€Ouoc) indicated. Basal contact commonly abrupt and erosional. Trace fossils on some horizons.
- €Oomcs — Dominantly thick-bedded to massive cobble-pebble to cobble-boulder conglomerate with minor sandstone lenses, pink to pale grey in colour. Some units of interbedded conglomerate and sandstone (€Oomcs) and dominantly pink sandstone (€Ooms) indicated.
- €Oom — Interbedded sequence of micaceous sandstone siltstone and siliciclastic pebble conglomerate, generally grey but pink in some areas. Slump structures common. Newton Creek Sandstone (Member) and correlates.
- €Ooms — Dominantly thick-bedded to massive white to pink cobble-pebble conglomerate with minor sandstone lenses.
- €Ool — Volcaniclastic conglomerate and sandstone — correlate of Jukes Conglomerate.

EAST OF THE HENTY FAULT ZONE

FARRELL SLATES

- €fs — Shale-sandstone-volcaniclastic sequence of the Farrell Slates (€f). Some dominantly shale-sandstone units (€fs) and dominantly felsic volcaniclastic units (€ft) indicated.

TYNDALL GROUP AND STICHT RANGE BEDS

- €ts — Shale, siltstone, sandstone.
- €tvc — Mixed quartz-feldspar-phyric volcaniclastic (epiclastic) rocks and tuffs (€tct). Dominantly volcaniclastic rocks (€tvc) with some units of cherty ash (€tva) and volcaniclastic conglomerate (€tc) indicated.
- €ta — Dominantly quartz-feldspar-phyric tuff and breccia, with units of andesitic rocks (€ta) indicated.
- €tp — Dominantly volcanic rocks (€tv). Massive to flow-banded porphyry, generally quartz-feldspar-phyric (€tp). Intrusive or probably intrusive porphyry (€tpi): porphyritic lava (€tpl).
- €srb — Siliciclastic gray conglomerate and sandstone with interbedded micaceous siltstone. Pink pebble-cobble conglomerate (€src) and some volcaniclastic units (€srv) indicated — Middle to Late Cambrian Sticht Range Beds.

HENTY RIVER SEQUENCE BETWEEN NORTH AND SOUTH HENTY FAULTS

CAMBRIAN — MOUNT READ VOLCANICS

- €Ouhg — Interbedded lithicwacke, mudstone and siltstone, with minor tuff.

WEST OF THE HENTY FAULT ZONE

CENTRAL VOLCANIC COMPLEX — HERCULES — MT BLACK

- €cps — Dominantly instrusive, spherulitic feldspar-quartz porphyry.
- €cvt — Felsic pyroclastic rocks, including tuff, breccia, vitric tuff. Generally feldspar phyric (€cvt).
- €cvi — Fiamme bearing eutaxitic tuff of ignimbrite type.
- €cvag — Lithic breccia and agglomerate.
- €cvqt — Quartz-feldspar-phyric tuff often with lithic clasts.
- €cvs — Shale, siltstone, sandstone, minor tuff.
- €cvl — €cva — Dominantly feldspar-phyric lava of rhyolitic, dacitic or andesitic composition (€cvl). Some units of andesitic lava (€cva) indicated.
- €cvb — Basaltic lava.

CENTRAL VOLCANIC COMPLEX — RED HILLS

- €cp — Quartz-feldspar (± pyroxene ± muscovite) porphyry, mostly instrusive.
- €cvs — Shale, siltstone, sandstone, minor tuff.
- €cvt — Felsic pyroclastic rocks, dominantly feldspar-phyric, including ignimbritic units.
- €cvl — Dominantly feldspar-phyric lava of rhyolitic to dacitic composition.

PRECAMBRIAN

- Ep — Dominantly pelitic quartz-mica phyllite with scattered albite porphyroblasts.
- Epq — Interlayered phyllite, quartzite and micaceous quartzite.
- Eq — Dominantly fine to medium grained quartzite and micaceous quartzite.

INTRUSIVE ROCKS

?ORDOVICIAN

- ?Op — Quartz porphyry within €Oou at Return Ridge.

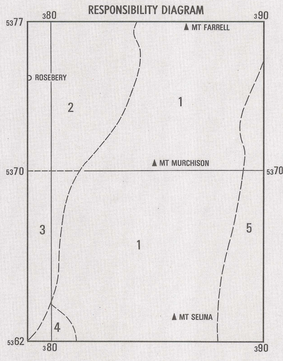
CAMBRIAN

- €gr — Granitic rocks.
- €p — Quartz-feldspar porphyry.
- €tpi — Porphyry associated with Tyndall Group volcanics.
- €g — Gabbro, dolerite.
- €ps — Felsic intrusive, commonly spherulitic, feldspar-quartz-phyric.
- €b — Basalt.

- chl — Alteration in volcanic rocks. chl = chlorite, pyr = pyrite, ser = sericite.
- Area of strongly cleaved or disrupted rocks usually associated with fault zones.
- Geological boundary — accurate or approximate.
- Geological boundary — inferred.
- Geological boundary — concealed.
- Fault — position accurate or approximate.
- Fault — inferred.
- Fault — concealed.
- Prospect or abandoned mine.

- Axial surface trace of major anticline, syncline.
- Minor fold with plunge-anticline, syncline, unspecified, kink band.
- Strike and dip of bedding; facing unknown, facing known, overturned, vertical.
- Banding in volcanic or igneous rock, vertical.
- Strike and dip of dominant cleavage of unspecified type or relative age in Cambrian or younger rocks, vertical cleavage.
- Lineation with plunge.
- Strike and dip of cleavage in Precambrian rock; S_1, S_2 unspecified, compositional layering.
- Minor fold, with plunge, in Precambrian rock; F_1, F_2 unspecified.

RESPONSIBILITY DIAGRAM



1. Mapping at 1:10 000 by A. W. McNeill, 1987.
2. Corbett, K. D. and McNeill, A. W. 1986. Geology of the Rosebery-Mt Block Area. Mt Read Volcanics Project, Map 2. Dep. Mines Tasm.
3. Corbett, K. D. 1986. Geology of the Henty River-Mt Read area. Mt Read Volcanics Project, Map 3. Dep. Mines Tasm.
4. Corbett, K. D. 1986. Geology of the Henty River- Mt Read area. Mt Read Volcanics Project Map 3 with revision by A. W. McNeill, 1987.
5. Airphoto interpretation and reconnaissance mapping by A. W. McNeill.

Base map adapted from Selina, Tullah, Rosebery and Dundas 1:25 000 maps produced by Lands Department, Hobart.
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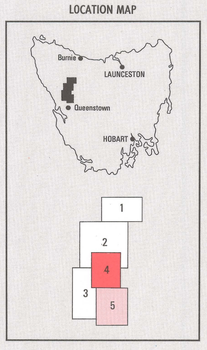
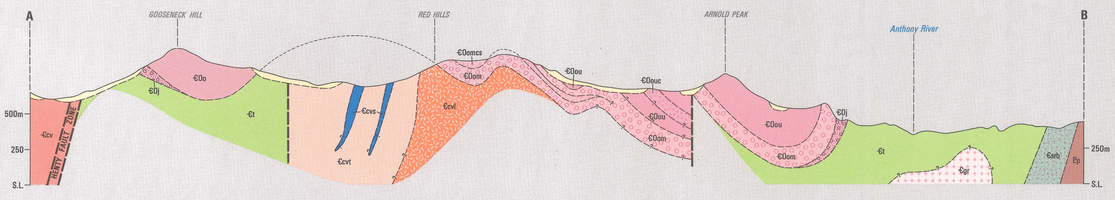
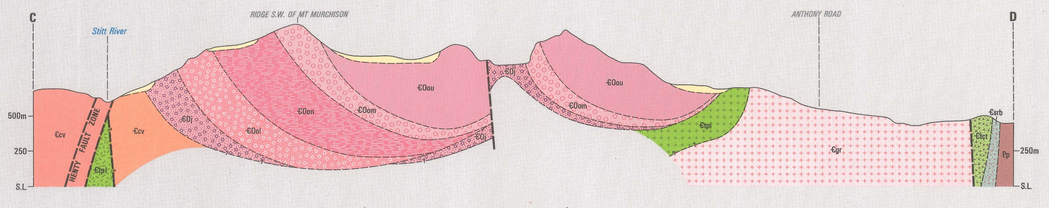
LOCATION MAP



SECTIONS V:H = 1:1