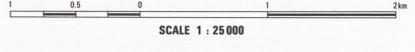


# MAP 9. GEOLOGY OF THE WINTERBROOK — MOINA AREA

J. PEMBERTON B.Sc. (Hons.), M.Sc. and M. J. VICARY B.Sc. (Hons.)



### QUATERNARY

- Qc Cultural features — waste dumps, dams, etc.
- Qs Talus, scree, slope deposits — derived from siliciclastic rocks (Dts), Cambrian volcanics (Dv) and Tertiary basalt (Dtb).
- Qa Alluvium, swamp deposits — may include older alluvium.
- Qg Coarse gravelly deposits of mainly fluvio-glacial and/or glacial origin.
- Qm Boundary moraine deposits. Moraine ridge crest indicated (---).

### TERTIARY

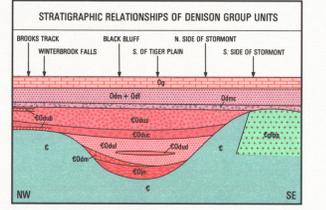
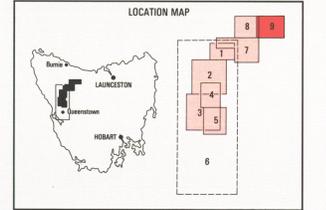
- Th Unconsolidated sediments — gravel, sand, clay and minor lignite with some horizons of plant fossils.
- Tb Vesicular to massive basalt flows. Columnar jointing common. Overlying indicates areas of hydrothermal breccias.
- Ts Silicified gravel and/or breccia of locally derived rock type ("Greyblilly").

### ORDOVICIAN

- Or Limestone and minor shale. Commonly stromatolitic and fossiliferous — Gordon Group.

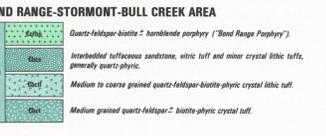
### LATE CAMBRIAN — EARLY ORDOVICIAN DENISON GROUP — OWEN CONGLOMERATE

- OCm Few weathering siltstone and calcareous sandstone — Correlates of Florentine Valley Mudstone. Grey silicified sandstone, thick bedded to massive, commonly bioturbated and with tubular burrows — Moine Sandstone.
- OCn Grey medium to coarse-grained sandstone and pebble-cobble conglomerate, rarely bioturbated (Dnec). Pink medium to coarse-grained sandstone and gravelly pebble conglomerate. Clasts of chert common but not ubiquitous (CChn). Localized thin flows of purple weathering basaltic altered fine grained basalt (CDBn). Massive to brecciated generally well chlored, vesicular, rare pillow structures and foliated rock. Chert nodules indicate related unit of basaltic volcanoclastic sediment.
- OCp Pink pebbles to pebble-cobble conglomerate with minor lenses of coarse sandstone (COCn). Commonly chert-bearing. Base transgressive and erosional in some areas.
- OCd Dominantly thin bedded pink to grey sandstone with minor siltstone, calcareous sandstone and gravelly pebbles to pebble-cobble conglomerate. Dissected on some horizons. Sil-like bodies of subophitic dolerite (CSDn).
- OCb Thickly bedded pebble-cobble to cobble-boulder conglomerate with minor sandstone lenses — correlates of Middle Owen Conglomerate.
- OCa Grey to purple volcanoclastic pebble-cobble conglomerate and minor coarse sandstone. Mostly correlates of Jukes Conglomerate but may include equivalents of Newton Creek Sandstone.



### CAMBRIAN — MOUNT READ VOLCANICS WINTERBROOK-BELL MOUNTAIN AREA CORRELATES OF TYNDALL GROUP AND DUNDAS GROUP

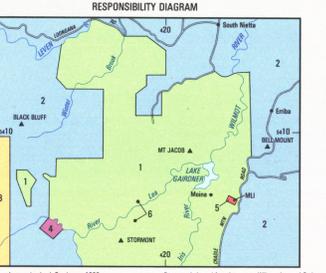
- CVa Dominantly volcanoclastic pebble-cobble conglomerate and sandstone, usually quartz-feldspar-phyric with lesser felsic to intermediate volcanic rocks. Silical. Mappable unit of volcanoclastic pebble-cobble conglomerate, clasts predominantly quartz-feldspar-phyric.
- CVb Andesitic volcanoclastic pebble-cobble conglomerate.
- CVc Quartz-feldspar + biotite crystal and crystal lithic tuff with minor quartz-feldspar-phyric lava.
- CVd Quartz-feldspar-phyric lavas; commonly spherulitic auto-brecciated and flow banded. Includes rare volcanoclastic tuff in some units.
- CVe Andesitic pyroclastics, predominantly felsite-phyric crystal lithic tuff.
- CVf Andesite, brown weathering mostly massive rarely flow-banded and auto-brecciated lava, felsite + hornblende-phyric.
- CVg Interbedded tuffaceous sandstone, siltstone, vitric tuff, crystal tuff and minor volcanoclastic conglomerate, generally quartz-feldspar-phyric with minor lava.
- CVh Felsite, felsite-phyric lava, cream-grey in colour, commonly spherulitic.
- CVi Quartz-feldspar-hornblende porphyry possible lava.



- CVj Contact aureole associated with Dalwood Granite. Variable effects include pervasive silicification, epidote-chlorite actinolite alteration and local formation of epidote lenses. Cambrian rocks: recrystallization, silicification and local muscovite alteration in Moine Sandstone. Local quartz-muscovite muscovite mineralization in country rocks.
- CVk Coronium-bearing silicified spines in Cambrian rocks, probably associated with Devonian granite aureole.

- ### INTRUSIVE ROCKS
- LATE DEVONIAN DI Alkali-feldspar granite. Cream to pink medium to coarse grained equigranular to porphyritic with minor orthopyroxene, apatite, pyroxene and zircon — Dalwood Granite.
  - ORDOVICIAN? ODol Dolerite, medium grained subophitic, locally chlored and pyritized near fault zones.
  - CAMBRIAN-ORDOVICIAN? CBd Basalt dykes, vesicular, chlorite-carbonate altered, possibly associated with faults.
  - CAMBRIAN CVp Quartz-feldspar porphyry, locally flow-banded.
  - CAMBRIAN CVq Quartz-feldspar-biotite + hornblende porphyry — "Bond Range Porphyry".

- Contact aureole associated with Dalwood Granite. Variable effects include pervasive silicification, epidote-chlorite actinolite alteration and local formation of epidote lenses. Cambrian rocks: recrystallization, silicification and local muscovite alteration in Moine Sandstone. Local quartz-muscovite muscovite mineralization in country rocks.
- Coronium-bearing silicified spines in Cambrian rocks, probably associated with Devonian granite aureole.
- Area of stark replacement of calcareous rocks (Gordon Limestone — Florentine Valley Mudstone). Mineral assemblages include garnet, diopside, epidote, actinolite, magnetite, pyrite, vanadate and fluorite. Associated economic minerals include wolframite, cassiterite, bismuthinite, gold and silver.
- Prospect or abandoned mine with commodity indicated.
- Open pit or quarry.
- Prospected quartz vein.
- Major fault locality.
- Minor fault locality (Tertiary).
- Geological boundary — accurate or approximate.
- Geological boundary — inferred or concealed.
- Fault — accurate or approximate.
- Fault — inferred or concealed.
- Axial surface trend of major anticline, syncline with plunge where known.
- Minor fold with plunge where known, anticline, syncline, unspecified.
- Strike and dip of bedding — facing known, unknown, overturned, west-reclined, vertical.
- Bedding in volcanic or igneous rock, vertical bedding.
- Strike and dip of dominant cleavage of unspecified type in Cambrian or younger rock, vertical cleavage.
- Joint dipping, vertical.
- Field station for adjacent reading on map.
- Glacial station.
- Drill hole.
- Small outcrop.



1. 1:100 000 scale mapping by J. Pemberton 1989.  
 2. 1:25 000 scale mapping by M. Vicary 1989-90.  
 3. Limited traverse and sample interpretation by J. Pemberton 1988 with structural data supplied by G. Searles.  
 4. 1:100 000 scale mapping by M. Vicary with additional information from Pemberton, J. Searles, Progress report of Mt. Read Project mapping.  
 5. Collins, P.L. 1975. Tuff, Rep. Dep. Mines Trans. 18: 17-27.  
 6. Fleming, M. J. 1988. E.L. 47/83 — Lake Lea Annual Report. Mines Dept. Report No. 88/2984.  
 7. McArthur, J. P. 1971. Annual Report on Moine area — E.L. 8/65, 1972-71. Mt. Moine and Bell Mountain T.C.R. 71/102.  
 8. Mineral deposits modified after Barford and Green (1988).  
 9. Carbonate Mineral Deposit Map, Dept. of Mines.  
 Base map adapted from Longmore, Wilcock, Lea and Corbett.  
 Geographical map production by the Cartographic Section of the Geological Survey, Department of Mines, Hobart.  
 Cartography by C. A. Meach and P. B. Marshall.  
 G. Searles, E.L.C. (Hons.), Ph.D., Senior Geologist in charge of Mt. Read Project mapping.  
 Economic Geology Section.  
 Compiled under the direction of M. B. Hargreaves, Acting Director of Mines, Hobart under the authority of the Minister for Resources and Energy.  
 Published 1989.  
 CROWN COPYRIGHT RESERVED.

