FIRST EDITION 1987

ST. HELENS

GEOLOGICAL SURVEY OF TASMANIA — DEPARTMENT OF MINES — HOBART

GEOLOGICAL ATLAS 1:50 000 SERIES — SHEET 8515 S

148°00' 30mm E 05' 10' 00mm E 15' 10mm E 20' 25' 20mm E 148°30'
41°15' 30mm N 20' 10mm N 25' 41°30'

REFERENCE

CAINOZOIC

QUATERNARY

- Qha — *Alluvium, swamp and marsh deposits.*
- Qbd — *Beach and dune sand. Beach sand (Qhb). Dune sand (Qhd).*
- Qpkj — *Talus consisting dominantly of Jurassic dolerite.*
- Qpc — *Sand, gravel and clay occasionally with ferruginous cement. Minor peat.*

Erosion surface.

TERTIARY

- Ts / Tss — *Conglomerate, gravel, sand and derived lag (Ts). Stippled overprint indicates man-disturbed. Silcrete (Tss) indicated.*
- Tb — *Basalt.*
- Qal — *Gravel, sand and derived lag (Qal on St Marys 1:50 000 Geological Map).*

Erosional surface.

PERMIAN — PARMENEER SUPER-GROUP

- Pw / Ps — *Freshwater quartz sandstone, shale and conglomerate.*

Angular unconformity.

PALAEOZOIC

DEVONIAN — SILURIAN (?) — MATHINNA BEDS

- SDtw — *Turbidite sequence of interbedded sandstone and mudstone. Sandstone dominated successions ( ) interbedded sandstone and mudstone successions ( ) / mudstone successions ( ).*

Contact metamorphic psammite, spotted pelite and minor schist SDtw ( ) / with intrusions of Dbgn ( ).

IGNEOUS ROCKS

TERTIARY

- Tb — *Basalt.*

JURASSIC

- Jd — *Dolerite.*

DEVONIAN (?)

- Dd — *Dolerite (commonly containing iron sulphide).*

BLUE TIER BATHOLITH

MINOR GRANITIC INTRUSIONS

- Dbp — *Quartz-feldspar porphyry.*
- Dbaa — *Aplitic granite.*
- Dbhg — *Quartz-plagioclase-hornblende porphyry.*
- Dbgm — *Leucocratic muscovite granite.*

MAJOR GRANITIC INTRUSIONS

DEVONIAN

- Dbgc — *Very abundantly porphyritic with small K-feldspar, phenocrysts medium-to coarse-grained biotite granite.*
- Dbgf — *Porphyritic fine grained biotite-muscovite adamellite with abundant small plagioclase phenocrysts; variably porphyritic leucocratic muscovite rich variety ( ).*
- Dbgc — *Porphyritic coarse-grained biotite and biotite-minor muscovite adamellite.*
- Dba — *Fine-to coarse-grained biotite adamellite.*
- Dbasc — *Porphyritic to seriate to equigranular coarse-grained biotite-minor muscovite adamellite; with numerous intrusions of fine-to medium-grained pink biotite granite ( ); areas indicated of generally pink coarse-grained adamellite to alkali-feldspar granite with abundant minor intrusions of fine-to medium-grained pink biotite granite ( ).*
- Dbgh — *Variably porphyritic coarse-to fine-grained biotite hornblende granodiorite; with very abundant large K-feldspar phenocrysts and minor or no hornblende ( ); with very abundant Mathinna Beds xenoliths variety ( ). Note: Dbgh = Dgd St Marys 1:50 000 Geological Map.*
- Dbghp — *Sparsely porphyritic medium-to coarse-grained biotite granodiorite.*
- Dbgd — *Strongly foliated medium-to coarse-grained biotite granodiorite.*
- Dbgp — *Sparsely porphyritic coarse-grained biotite-hornblende granodiorite; ophitoid coarse-grained monzodiorite to monzonite ( ) areas indicated.*
- Dbdc — *Coarse-grained diorite.*

Geological boundary — position approximate.
Geological boundary — position inferred.
Geological boundary — transitional.
Fault — position approximate.
Fault — inferred.
Indicating fine grained marginal zone of igneous body adjacent to boundary or fault.
Strike and dip of beds — right way up; overturned; facing unknown.
Strike and dip of cleavage; vertical.
Strike and dip of later cleavage at (BB8147).
Direction and plunge of minor hinge line with direction and dip of axial surface.
Fault — position approximate.
Direction and plunge of hinge line of minor chevron fold with direction and dip of axial surface.
Strike and dip of foliation due to alignment of K-feldspar phenocrysts in igneous rock.
Trend of apparent lineation of K-feldspar phenocrysts on horizontal surfaces of igneous rock.
Strike and dip of foliation due to alignment of hornblende and/or biotite in igneous rock.
Trend of apparent lineation of hornblende and/or biotite on horizontal surfaces of igneous rock.
Strike and dip of small dyke or sill; aplitic granite Dbaa, leucocratic muscovite granite Dbgm, porphyritic medium-to coarse-grained biotite granite Dbgc.
Field station for adjacent readings on map.
Borehole with depth in metres of rock type encountered and final depth.
Small outcrop.
Quarry or gravel pit. (Qr — gravel).
Quarry or gravel pit — abandoned.
Alluvial workings. (Sn — Tin).
Alluvial workings — abandoned.
Mine or Prospect — abandoned (Au — Gold, Cu — Copper, As —Arsenic, Ag — Silver, W — Tungsten, Pb — Lead, Zn — Zinc, Mo — Molybdenum, Sn — Tin). Name of mine or prospect given if known.
Fossil locality.

Highway
Road
Vehicular track

UNIVERSAL GRID REFERENCE

GRID ZONE DESIGNATION: 55G

100 000 METRE SQUARE IDENTIFICATION: FQ GQ

TO GIVE A STANDARD REFERENCE ON THIS SHEET TO NEAREST 100 METRES

SAMPLE POINT: RAYMOND HILL

1. Read letters identifying 100 000 metre square in which the point lies. (1)
2. Locate first VERTICAL grid line to LEFT of point and read the number identifying the line in either the top or bottom margin, or on the line itself. 89
3. Estimate tenths from grid line to point. 6
4. Locate first HORIZONTAL grid line BELOW point and read the number identifying the line in either the left or right margin, or on the line itself. 23
5. Estimate tenths from grid line to point. 1

SAMPLE REFERENCE: (1)896231

If reading inverse 1.5° in any direction, prefix Grid Zone Designation, ie. 55G(1)896231

IGNORE the SMALLER figures of any grid number; these are for finding 100 000 metre square only. ONLY the LARGER figures of the grid number, example: 10 00

RESPONSIBILITY DIAGRAM

M.P.M. P.W. N.J.T.

SCALE 1:50 000

CONTOUR INTERVAL 20 METRES

1 0 1 2 3 4 5 6 KILOMETRES

Geology by M.P. McClenaghan, B.Sc. (Hons), Ph.D.; N. J. Turner, B.Sc. (Hons); P. N. Williams, B.Sc. (Hons), Ph.D.
Base map redrawn from Georges Bay 1:100 000 map, produced by the Lands Department, Hobart.
Geological map production by the Cartographic Section of the Geological Survey, Department of Mines, Hobart.
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Compiled under the direction of R. Mauthe, B.Sc., Director of Mines.
Issued under the authority of the Minister for Mines.
Published 1987

LOCATION MAP

ADJOINING SHEETS

Burnie, Launceston, Queenstown, HOBART

RINGAROOMA | BLUE TIER
ALBERTON | ST HELENS
BEN LOMOND | ST MARYS

ST HELENS
SHEET 8515 S (41)