Tasmanian Government

Department of State Growth

MINERAL RESOURCES TASMANIA

GEOLOGY OF NORTHWEST TASMANIA

SCALE 1:250 000

0 5 10 15 20 25km

The geological data for this map were compiled by C.R.Calver B.Sc.(Hons)Ph.D., K.D.Corbett B.Sc.(Hons)Ph.D., G.V.Cumming B.Sc.(Hons), J.L.Everard B.Sc.(Hons), B.D.Goscombe B.Sc.(Hons)Ph.D., C.J. Jackman B.Sc.,(Hons)M.EconGeol, J.Pemberton B.Sc.(Hons)M.Sc., D.B.Seymour B.Sc.(Hons)Ph.D., M.J.Vicary B.Sc.(Hons), from Tasmanian Geological Survey Geological Atlas 1:63 360 and 1:50 000 series, Digital Geological Atlas 1:25 000 series and other sources.

Base data from the LIST, Copyright State of Tasmania.

Map produced by Spatial Information Services, Mineral Resources Tasmania.

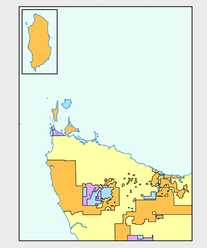
GDA94 - MGA Zone 55.

Reference this map as:
CALVER, C.R.; CORBETT, K.D.; CUMMING, G.V.; EVERARD, J.L.; GOSCOMBE, B.D.; JACKMAN, C.J.; PEMBERTON, J.; SEYMOUR, D.B.; VICARY, M.J. (updated) 2023. Geology of Northwest Tasmania. Edition 2025.1. Digital Geological Atlas 1:250 000 Scale Series. Mineral Resources Tasmania.

While every care has been taken in the preparation of this data, no warranty is given as to the correctness of the information and no liability is accepted for any statement or opinion or for any error or omission. No reader should act or fail to act on the basis of any material contained herein. Readers should consult professional advisers. As a result the Crown in Right of the State of Tasmania and its employees, contractors and agents expressly disclaim all and any liability (including all liability from or in connection with any negligent act or omission) to any person using the information or in respect of anything done or omitted to be done by any such person in reliance whether in whole or in part upon any of the material in this data.

Crown copyright reserved.

SOURCE MAPPING



- Highly detailed (eg. more detailed than 1:25 000 scale mapping).
- Detailed systematic (eg.1:25 000 map or equivalent detail).
- Regional systematic (eg.1:50 000, 1:63 360 map or equivalent detail).
- Regional mapping less detailed than 1:63 360 map or equivalent (all other scales).
- Reconnaissance mapping with sparse ground traverses.
- Remote sensing and/or geophysical interpretation with limited or no ground information.

CONTACTS

- Geological contact.
- Limit of mapping of sub-unit within undifferiented rock unit.

FAULTS

- Fault
- Fault - concealed.
- Normal fault (downthrown side indicated).
- Normal fault (downthrown side indicated) - concealed.
- Thrust fault (teeth on upper plate).
- Thrust fault (teeth on upper plate) - concealed.
- Strike-slip fault (dextral).
- Strike-slip fault (sinistral).

LINEARS

- Axial surface trace of major antiform.
- Axial surface trace of major synform.
- Axial surface trace of major overturned antiform.
- Axial surface trace of major overturned synform.
- Lithological trend line, including bedding trace.
- Erosional surface.
- Terrestrial cavern fillings (Eugenana Beds) (Dc).
- Angular unconformity attributed to major polyphase orogeny.

- Strike and dip of bedding: right way up; overturned; facing unknown; vertical with facing unknown.
- Strike and dip of cleavage: dipping; vertical.
- Strike and dip of crenulation cleavage: dipping.
- Strike and dip of schistosity or metamorphic foliation: dipping; vertical.
- Direction and plunge of hinge line of minor fold: unspecified age; folding cleavage or schistosity.
- Strike and dip of igneous mineral foliation: dipping; trend of foliation trace on horizontal surface.

CENOZOIC

QUATERNARY

- Qh — Sand, gravel, and mud of alluvial, lacustrine and littoral origin (Qh).
- Qpf — Glacial, periglacial and fluvioglacial sediments including till and interglacial deposits (Qp); talus, vegetated and active (Qpf).
- Qpg — Glacial and glacigene deposits (Qpg).
- Qps — Coastal sand and gravel (Qps).
- Qpl — Limestone (Qpl).

PALEOGENE-NEOGENE

- Erosional surface
- Tt — Dominantly non-marine sequences of sand and gravel, silt clay and regolith (Ts); marine limestone (Tm); ferricrete and laterite derived from basalt (Tl).
- Tb — Basalt (tholeiitic to alkalic) and related volcaniclastic rocks (Tb).
- Tc — Conglomerate, gravel and grit (Tc).
- Erosional surface.

TRIASSIC - PERMIAN

- Undifferentiated fluviolacustrine sequences of sandstone, siltstone and mudstone (Tr).
- Pu — Upper glaciomarine sequences of pebbly mudstone, pebbly sandstone and limestone (Pu).
- Pf — Freshwater and paralic sandstone and mudstone with some coal measures (Pf).
- Pl — Lower glaciomarine sequences of mudstone, pebbly mudstone, pebbly sandstone, minor limestone and tasmanite oil shale (Pl); basal tillite (Pt).

UPPER / LOWER PARMENIENT SUPERGROUP

- Angular unconformity.

PALEOZOIC

DEVONIAN - ORDOVICIAN

- SDb — Siltstone, shale and fine-grained sandstone (Bell Shale and correlates) (SDb).
- SDl — Shallow marine quartz sandstone (Florence Quartzite and correlates) (SDl).
- SDa — Siltstone, shale and minor quartz sandstone (Amber Slate, Keel Quartzite, Austral Creek Siltstone and correlates) (SDa).
- SDc — Shallow marine quartz sandstone and pebble conglomerate (Crotty Quartzite and correlates) (SDc).
- Ol — Dominantly shallow marine limestone with minor siltstone and sandstone (Gordon Group) (Ol).
- Undifferentiated or poorly constrained conglomerate-sandstone sequences of Funongian to Ordovician age (€O).
- Os — Shallow marine sandstone-mudstone ± conglomerate ± limestone, Ordovician fossils and trace fossils in places. Includes Moina Sandstone, Pioneer Beds (Os). Unconformity on older rocks in places.
- €Os — Shallow marine sandstone, typically pink, cross-bedded to thin-bedded, with some siltstone and minor conglomerate. Includes Upper Owen Sandstone (€Os).
- €Ob — Basalt lava (€Ob).
- €Oc — Mainly siliciclastic conglomerate with sandstone interbeds, shallow marine to non-marine, pebble to boulder grade. Includes Middle Owen Conglomerate, Dial Conglomerate, Roland Conglomerate (€Oc).
- €Oms — Marine sandstone-siltstone-conglomerate sequences, typically tubiditic, siliciclastic to polymict. Funongian fossils in places. Includes Newton Creek Sandstone, Middle Owen Sandstone, upper Dundas Group, much of 'Rosebery Group' (€Oms).

ELDON GROUP / GORDON GROUP / OWEN GROUP / WARRAWINA SUPERGROUP

- Diachronous contacts; angular unconformity in some areas, apparent conformity in others.

CAMBRIAN

FURONGIAN

CAMBRIAN SERIES 3

? TERRENEUVIAN - CAMBRIAN SERIES 2

SMITHTON - ROCKY CAPE REGION

- €m — Polymict conglomerate, lithicwacke, siltstone and mudstone with rare marine fossils (Scopus Formation) (€m).
- Inferred disconformity

TULLAH - DIAL RANGE - FOSSEY MOUNTAINS REGION

- €dt — Dominantly sedimentary sequences with minor volcanic and volcaniclastic units (€ds).
- €dtl — Upper sequence of felsic to intermediate volcaniclastic and volcanic rocks, with minor basalt, of Cambrian Series 3 age. Tyndall Group and correlates (€dt).
- €ds — Felsic lavas within Tyndall (€ds).
- €da — Andesitic lavas, breccias and intrusive rocks. Includes, Que-Hellyer Volcanics, Beulah andesite (€da).
- €dsv — Dominantly volcano-sedimentary sequences with some felsic to intermediate volcanic rocks; Cambrian Series 3 fossils in places. Western Volcano-Sedimentary sequences, Mt Charter Group, Gog Range Greywacke (€dsv).
- €db — Basaltic volcanics and minor intrusives (€db).
- €dsvl — Felsic lavas within Western Volcano-Sedimentary sequence (€dsvl).
- €dv — Dominantly felsic to intermediate volcanic rocks, typically massive, feldspar-phyric. Central Volcanic Complex (€dv).
- €dq — Dominantly felsic volcanic, volcaniclastic and intrusive rocks, typically quartz-feldspar-phyric. Eastern Quartz-Phyric Sequence and correlates (€dq).
- €dsq — Siliciclastic sandstone-siltstone-conglomerate units of metamorphic derivation. Includes Sticht Range Beds, Animal Creek Greywacke (€dsq).

MT READ VOLCANICS

- €s — Layered peridotite, serpentinite and associated rocks (€s); tonalite and associated rocks (€t); undifferentiated low-Ti tholeiitic and boninitic lavas (€b). Structurally emplaced.
- €cw — Mafic volcaniclastic sandstone-siltstone-mudstone-chert-minor carbonate sequences, with intercalated tholeiitic basalt flows. Considered allochthonous. Luina Group and correlates (€cw). Dominantly micaceous quartzose lithicwacke, including Crescent Spur Sandstone (€cwq). Tholeiitic basalt and picrite units (€cwb). Chert-rich sequences, including Barrington Chert (€ccw).

ARTHUR METAMORPHIC COMPLEX

- Pzc — Chloritic schist, with minor phyllite, dolomite and magnesite (Pzc); lithologically diverse (Pzcb) including limestone, dolostone, metamafics and talc, chloritic albite and amphibole schists. Includes magnetite ore and magnesian skarns (Pacb); amphibolite (Paa).
- Paq — Phyllite with minor pelitic schist, foliated quartzite and dolomite, and rare conglomerate (Pap).
- Pat — Quartz mica schist, quartzite, phyllite and rare dolomite (Kath Schist and correlates) (Pat).

KING ISLAND

- Pdv — Turbiditic volcaniclastic and mafic volcanic rocks (Crimson Creek Formation and correlates) (Pdv).
- Pds — Shallow marine quartz sandstone and siltstone with carbonate and chert beds (Success Creek Group and correlates) (Pds).
- Angular unconformity.
- Pvv — Tholeiitic basalt and picrite (Skipworth Subgroup) (Pyv).
- Pys — Shale, siltstone, diamictite, minor carbonate and basaltic lava (Pys).

GRASSY GROUP / SUCCESS CREEK GROUP

TYENNAN AND SIMILAR REGIONS

- Pts — Undifferentiated metasedimentary sequences, with greenschist facies metamorphism (Pt). Dominantly quartzite sequences (Pts).
- Pz — Dominantly pelitic sequences, mainly phyllite (Ptp).
- Ptpg — Garnetiferous pelitic schist (Ptpg).
- Pto — Dominantly schistose conglomerate (Goat Island Conglomerate and correlates) (Pto).
- Pf — Micaceous quartzite, schist, phyllite and minor amphibolite (Pb) (Suprise Bay Formation); quartz siltstone and mudstone (Pf) (Fraser Formation); garnetiferous metamorphic equivalents (Ptg).

NEOPROTEROZOIC

CRYOGENIAN EDIACARAN

NEOPROT-ERO/ZOIC(?) TO CAMBRIAN(?)

MESOPROTERZOIC

CALYMMIAN(?) ECTASIAN STENIAN TONIAN(?)

- Prs — Unassigned quartzite sequences (Prs).
- Prq — Shallow marine to pertidal, well-bedded, cross-bedded orthoquartzite, platy quartzite and siltstone (Jacob Quartzite) (Prq).
- Pri — Shallow marine laminated grey siltstone, mudstone and dolomite (Irby Siltstone) (Pri).
- Prd — Shallow marine to pertidal, well-bedded, cross-bedded orthoquartzite and subordinate siltstone (Detention Subgroup) (Prd).
- Prc — Dominantly dark, laminated, commonly pyritic, marine siltstone and mudstone (Cowrie Siltstone and similar sequences) (Prc).
- Prb — Interbedded cross-bedded quartz sandstone and siliceous-carbonaceous siltstone, fining up to laminated chloritic siltstone (Balfour Subgroup) (Prb).
- Prbs — Some areas of ± massive quartz sandstone indicated (Prbs).
- Prl — Parallel-to cross-bedded quartz sandstone with rare quartz-pebble conglomerate and shale (Lagoon River Quartzite) (Prl).
- Pra — Interbedded to interlaminated siltstone and quartz siltstone-sandstone with erosional structures, grading and cross-lamination (Pedder River Siltstone) (Pra).

ROCKY CAPE GROUP

IGNEOUS ROCKS

PALEOGENE-NEOGENE

- Tb — Basalt (tholeiitic to alkalic) and related volcaniclastic rocks (Tb).

JURASSIC

- Jd — Dolerite (tholeiitic) with locally developed granophyre (Jd).

DEVONIAN - CARBONIFEROUS

- Dgd / Dgsd / Dgafs / Dgas / Dgs — Undifferentiated granitic rocks (Dg); undifferentiated alkali-feldspar granite/granite/adamellite, I-type (Dga); S-type (Dgas); dominantly alkali-feldspar granite, I-type (Dgaf); S-type (Dgafs); dominantly adamellite/granite, I-type (Dgas); S-type (Dgass).
- Dgn — Dominantly granodiorite/adamellite, I-type (Dgn).

ORDOVICIAN

- €Ob — Tholeiitic basalt (Mt Tor area; upper Wilmot River) (€Ob).
- €Oe — Tholeiitic dolerite (Black Bluff Range) (€Oe).

CAMBRIAN

CAMBRIAN SERIES 3 - FURONGIAN

- €dtl — Felsic lavas within Tyndall Group (€dtl).
- €dsvl — Felsic lavas within Western Volcano-Sedimentary Sequence (€dsvl).
- €db — Basaltic volcanics and minor intrusives (including Hellyer basalt) (€db).
- €da — Andesitic lavas, breccias and intrusive rocks (€da).
- €dai — Major andesitic to dacitic intrusives, including 'Beulah Granite' and Lobster Creek Intrusives (€dai).'
- €dv — Felsic to intermediate volcanic rocks (Central Volcanic Complex of Mt Read Volcanics) (€dv).
- €dfp — Quartz feldspar porphyry (€dfp).
- €gr — Granite, (includes Dove Granite) (€gr).
- €dd — Dolerite (Mt Charter area; upper Leven River); diorite (Wilmot and Riana areas) and basalt (Gog Range area) (€dd).
- €g — Gabbroic rocks (€g).

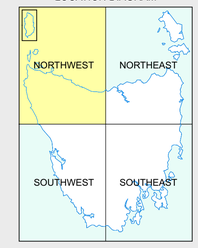
? TERRENEUVIAN - CAMBRIAN SERIES 2

- €cbl — Low-titanium tholeiitic lavas (€cbl); derived coarse-grained volcaniclastics (€cbv).
- €cp — Picritic lava and brecia (€cbp).
- €cba — Boninitic lavas (€cba).
- €t — Tonalite and associated rocks (€t).
- €csd — Layered peridotite, serpentinite and associated rocks (€s); dominantly serpentinised layered dunite and harzburgite ('LDH association') (€sd); dominantly layered pyroxenite and dunite ('LPD association') (€sp).
- €cwb — Tholeiitic basalt (within Luina Group and correlates; includes 'Motton Spillite') (€cwb).

CAMBRIAN SERIES 3 - FURONGIAN / ? TERRENEUVIAN - CAMBRIAN SERIES 2

- Pzb / Pyv — Tholeiitic basalt (Spinks Creek Volcanics, Bernafai Volcanics and correlates) (Pzb); with picrite (Skipworth Subgroup) (Pyv).
- Pyg — Subvolcanic andesitic intrusives (Grimes Intrusive Suite; on King Island) (Pyg).
- Pm — Tholeiitic dolerite dykes (Tayatea Dyke Swarm) (Pm).
- Pg / Pgi — Granitic rocks (on King Island) (Pg).
- Pzb — Alkali basalt and dolerite (within Burnie and Oonah Formations; includes Cooee Dolerite) (Pzb).
- Paa — Amphibolite (Paa).

LOCATION DIAGRAM



WARNING: INKS ARE LIGHT SENSITIVE.

THIS MAP IS EDITION 2025.1
BASED ON A STATEWIDE DATASET
Map generated: 04-Jun-2025