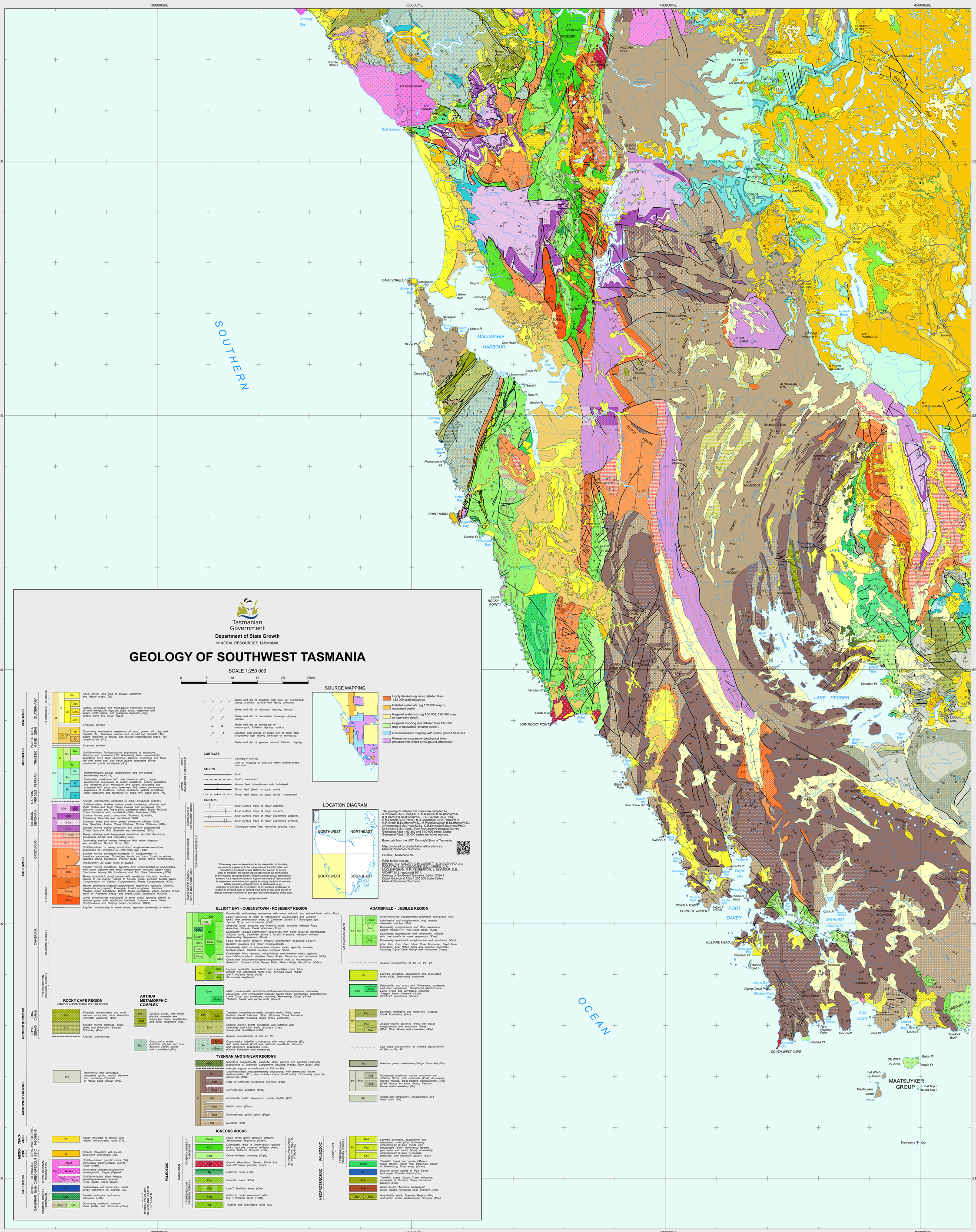
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400000mE
450000mE
5350000mN
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5250000mN
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SOUTHERN
OCEAN
MACQUARIE HARBOUR
LAKE PEDDER
LAKE GORDON
PORT DAVEY
BATHURST HARBOUR
SOUTH WEST CAPE
Tasmanian Government
Department of State Growth
MINERAL RESOURCES TASMANIA
GEOLOGY OF SOUTHWEST TASMANIA
SCALE 1:250 000
0 5 10 15 20 25km
CENOZOIC
MESOZOIC
PALEOZOIC
NEOPROTEROZOIC
MESOPROTEROZOIC
QUATERNARY
PALEO- NEO- GENE
TRIASSIC
PERMIAN
CARBON-IFEROUS
SILURIAN-DEVONIAN
ORDOVICIAN
CAMBRIAN
CRYO-GENIAN
EDIA-CARAN
PLEISTOCENE HOLOCENE
Qh
Qpl
Qpg
Qps
Q
TQ
Tb
Tc
TR
R
RVr
RVp
RQ
PTR
Pc
Pv
Pl
P
Pt
SDs
SDl
SD
SDd
SDc
Ola
Ol
Os
COs
CO
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Ꞓb
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Ꞓpm
Ꞓpq
Ꞓph
Ꞓpb
Ꞓpa
Ꞓpar
Ꞓpal
Pbc
Pss
Prc
Sand, gravel, and mud of alluvial, lacustrine and littoral origin (Qh).
Glacial, periglacial and fluvioglacial sediments including till and interglacial deposits (Qpl); talus, vegetated and active (Qpl); glacial and glacigene deposits (Qpg); coastal sand and gravel (Qps).
Erosional surface
Dominantly non-marine sequences of sand, gravel, silt, clay and regolith (Ꞓs); ferricrete, laterite and derived lag deposits (Ꞓf); basalt (tholeiitic to alkalic) and related volcaniclastic rocks (Ꞓb); conglomerate (Ꞓc).
Erosional surface
Undifferentiated fluviolacustrine sequences of sandstone, siltstone and mudstone (Ꞓr); dominantly lithic volcaniclastic sandstone (Ꞓrv); lithic sandstone, siltstone, mudstone and felsic tuff with some coal and basal quartz sandstone (Ꞓrvc); dominantly quartz sandstone (Ꞓrq).
Undifferentiated glacial, glaciomarine and non-marine sedimentary rocks (Pt).
Freshwater sandstone with coal measures (Pc); upper glaciomarine sequences of pebbly mudstone, pebbly sandstone and limestone (Pu); freshwater and paralic sandstone and mudstone with some coal measures (Pl); lower glaciomarine sequences of mudstone, pebbly mudstone, pebbly sandstone, minor limestone and tasmanite oil shale (Pt); basal tillite (Pt).
Angular unconformity attributed to major polyphase orogeny.
Undifferentiated shallow marine quartz sandstone, siltstone and shale (Eldon and Tiger Range Groups and correlates) (SD); siltstone, shale and fine-grained sandstone (Bell Shale, McLeod Creek Formation and correlates) (SDs); limestone (SDl).
Shallow marine quartz sandstone (Florance Quartzite, Currawong Quartzite and correlates) (SDd).
Siltstone, shale and minor quartz sandstone (Amber Slate, Keel Quartzite, Austral Creek Siltstone, Richea Siltstone) (SDa).
Shallow marine quartz sandstone and pebble conglomerate (Crotty Quartzite, Gell Quartzite and correlates) (SDc).
Mainly siltstone and fine-grained sandstone (Ordwell Sandstone, 'Rinadeena Shale' and correlates) (Ola).
Dominantly shallow marine limestone with minor siltstone and sandstone. Gordon Group (Ol).
Undifferentiated or poorly constrained conglomerate-sandstone sequences of Furongian to Ordovician age (Ꞓ-O).
Shallow marine sandstone-mudstone +/- conglomerate +/- limestone sequences. Ordovician fossils and trace fossils in places. Includes Moina Sandstone, Pioneer Beds, Butler Island Formation(Os).
Unconformity on older rocks in places.
Shallow marine sandstone, typically pink, cross-bedded to thin-bedded, with some siltstone and minor conglomerate. Includes Upper Owen Sandstone, Misery Hill Sandstone and Tim Shea Sandstone (COs).
Mainly quartz-rich conglomerate with sandstone interbeds, shallow marine to non-marine, pebble to boulder grade. Includes Middle Owen Conglomerate, Mt Zeehan Conglomerate, Reeds Conglomerate (-COc).
Marine sandstone-siltstone-conglomerate sequences, typically turbiditic, quartz-rich to polymict. Furongian fossils in places. Includes Newton Creek Sandstone, Middle Owen Sandstone, upper Dundas Group, much of 'Rosebery Group' and Great Dome Sandstone (COms).
Lower conglomerate sequences in some areas, typically pebble to boulder grade, with sandstone interbeds. Includes Lower Owen Conglomerate and Singing Creek Formation (-COcl).
Angular unconformity in some areas, apparent conformity in others.
Undifferentiated fluviolacustrine sequences of sandstone, siltstone and mudstone (Ꞓb); dominantly lithic volcaniclastic sandstone (Ꞓc); lithic sandstone, siltstone, mudstone and felsic tuff with some coal and basal quartz sandstone (Ꞓv); dominantly quartz sandstone (Ꞓd).
Erosional surface
Dominantly non-marine sequences of sand, gravel, silt, clay and regolith (Ꞓs); ferricrete, laterite and derived lag deposits (Ꞓf); basalt (tholeiitic to alkalic) and related volcaniclastic rocks (Ꞓb); conglomerate (Ꞓc).
Erosional surface
Turbiditic volcaniclastic and mafic volcanic rocks and minor diamictite (Bernafai Volcanics) (Ꞓpv).
Shallow marine dolomite, chert, shale and diamictite (Savage Dolomite) (Ꞓss).
Angular unconformity.
Chloritic schist, with minor phyllite, dolomite and magnesite (Ꞓac); amphibolite and minor magnetite (Ꞓaa).
Quartz-mica schist, quartzite, phyllite and rare dolomite (Keith Schist and correlates) (Ꞓat).
Dominantly dark laminated, commonly pyritic, marine siltstone and mudstone (correlate of Rocky Cape Group) (Ꞓrc).
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; vertical.
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.
CONTACTS
Geological contact.
Limit of mapping of sub-unit within undifferiented rock unit.
FAULTS
Fault.
Fault - concealed.
Normal fault (downthrown side indicated).
Thrust fault (teeth on upper plate).
Thrust fault (teeth on upper plate) - concealed.
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.
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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.
LOCATION DIAGRAM
NORTHWEST
NORTHEAST
SOUTHWEST
SOUTHEAST
The geological data for this map were compiled by A.V.Brown B.Sc.(Hons)Ph.D., C.R.Calver B.Sc.(Hons)Ph.D, K.D.Corbett B.Sc.(Hons)Ph.D., J.L.Everard B.Sc.(Hons), S.M.Forsyth B.Sc.(Hons), B.D.Gascoyne B.Sc.(Hons)Ph.D., G.R.Green B.Sc.(Hons)Ph.D., M.P.McClenaghan B.Sc.(Hons)Ph.D., 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.
Refer to this map as:
BROWN, A.V; CALVER, C.R; CORBETT, K.D; EVERARD, J.L; FORSYTH, S.M; GOSCOMBE, B.D.; GREEN, G.R; McCLENAGHAN, M.P; PEMBERTON, J; SEYMOUR, D.B.; VICARY, M.J. (updated) 2011.
Geology of Southwest Tasmania. Edition 2024.1.
Digital Geological Atlas 1:250 000 Scale Series.
Mineral Resources Tasmania.
ELLIOTT BAY - QUEENSTOWN - ROSEBERY REGION
Dominantly sedimentary sequences with minor volcanic and volcaniclastic units (Ꞓds).
Upper sequence of felsic to intermediate volcaniclastic and volcanic rocks, with sedimentary units, of Cambrian Series 3 - Furongian age. Tyndall Group and correlates (Ꞓdt).
Andesitic lavas, breccias and intrusive rocks. Includes Anthony Road Andesites, Thomas Creek Andesite (Ꞓda).
Dominantly volcano-sedimentary sequences with some felsic to intermediate volcanic rocks; Cambrian Series 3 fossils in places. Western Volcano-Sedimentary Sequences (Ꞓdsv).
Felsic lavas within Western Volcano Sedimentary Sequence (Ꞓdsvl).
Basaltic volcanics and minor intrusives(Ꞓdb).
Dominantly felsic to intermediate volcanic rocks, typically massive, feldspar-phyric. Central Volcanic Complex (Ꞓdv).
Dominantly felsic volcanic, volcaniclastic and intrusive rocks, typically quartz-feldspar-phyric. Eastern Quartz-Phyric Sequence and correlates (Ꞓdq).
Quartz-rich sandstone-siltstone-conglomerate units of metamorphic derivation. Includes Sticht Range Beds, Miners Ridge Sandstone (Ꞓdsq).
Layered peridotite, serpentinite and associated rocks (Ꞓs); boninite and associated rocks (Ꞓb); low-Ti tholeiitic lavas (Ꞓbl). Structurally emplaced.
Mafic volcaniclastic sandstone-siltstone-mudstone-chert-minor carbonate sequences, with intercalated tholeiitic basalt flows. Considered allochthonous. Luina Group and correlates, including 'Mainwaring Group' (Ꞓcw). Tholeiitic basalt and picrite units (Ꞓcwb).
Turbiditic volcaniclastic-mafic volcanic rocks (Ꞓdv); some tholeiitic basalt indicated (Ꞓdb). (Crimson Creek Formation and correlates including Lucas Creek Volcanics).
Shallow marine quartz sandstone and siltstone with carbonate and chert beds (Success Creek Group and correlates) (Ꞓds).
Angular unconformity of Ꞓds on Ꞓo.
Quartzwacke turbidite successions with minor dolomite (Ꞓo), with some basalt (Ꞓob) and dolomitic mudstone, siltstone and sandstone sequences (Ꞓod). (Donah Formation and correlates).
TYENNAN AND SIMILAR REGIONS
Schistose conglomerate, quartzite, slate, phyllite and silicified carbonate (sequences of uncertain assignment including Wedge River Beds) (Ꞓuf).
Inferred angular unconformity of Ꞓuf on Ꞓts.
Undifferentiated metasedimentary sequences, with greenschist facies metamorphism (Ꞓt - also includes Cape Sorell inlier). Dominantly quartzite sequences (Ꞓts).
Platy or schistose micaceous quartzite (Ꞓtsl).
Garnetiferous quartzite (Ꞓtsg).
Dominantly pelitic sequences, mainly phyllite (Ꞓtp).
Pelitic schist (Ꞓtpc).
Garnetiferous pelitic schist (Ꞓtpg).
Dolomite (Ꞓtd).
IGNEOUS ROCKS
Felsic lavas within Western Volcano Sedimentary Sequence (Ꞓdsvl).
Dominantly felsic to intermediate volcanic rocks, typically massive, feldspar phyric. Central Volcanic Complex (Ꞓdv).
Quartz-feldspar porphyry (Ꞓqfp).
Granite (Murchison, Darwin, Elliott Bay and SW Cape granites) (Ꞓgr).
Gabbroic rocks (Ꞓg).
Boninitic lavas (Ꞓba).
Low-Ti tholeiitic lavas (Ꞓbl).
Gabbroic rocks associated with low-Ti tholeiitic lavas (Ꞓblg).
Tonalite and associated rocks (Ꞓt).
ADAMSFIELD - JUBILEE REGION
Undifferentiated conglomerate-sandstone sequences (Ꞓa).
Litlicwacke and conglomerate, may contain ultramafic detritus (Ꞓac).
Dominantly conglomerate and lithic sandstone (upper member of Trial Ridge Beds) (Ꞓas).
Dominantly quartzwacke and lithicwacke turbidite with rare fossils in some sequences (Ꞓaq).
Dominantly quartz-rich conglomerate and sandstone (Ꞓac).
(Ꞓa, Ꞓas, Ꞓaq, Ꞓac: Island Road Formation, Boyd River Formation, Trial Ridge Beds and possible correlates including Clytie Cove Group and Ironbound Group).
Angular unconformity of Ꞓa on Ꞓw, Ꞓt.
Layered peridotite, serpentinite and associated rocks (Ꞓs). Structurally emplaced.
Feldspathic and quartz-rich lithicwacke, mudstone and chert sequences. Considered allochthonous. Luina Group and correlates, including 'Ragged Basin Complex' (Ꞓcw). Chert-rich sequences (Ꞓcwc).
Dolomite, diamictite and mudstone (Cotcase Creek Formation) (Ꞓwc).
Shallow-marine dolomite (Ꞓwt); with basal conglomerate and sandstone (Ꞓwa) (Weld River Group and correlates) (Ꞓw).
Low angle unconformity or inferred disconformity of Ꞓw on Ꞓc, Ꞓt.
Massive quartz sandstone (Wings Quartzite) (Ꞓq).
Dominantly laminated marine mudstone and siltstone (Ꞓm); with carbonate (Ꞓod); dominantly shallow marine, cross-bedded orthoquartzite (Ꞓoq). (Clark Group, Mt Anne Group, Pandani Group and correlates) (Ꞓc).
Quartz-rich lithicwacke, conglomerate and black slate (Ꞓh).
Tholeiitic basalt and picrite ('Miners Ridge Basalt'; Boyd River Volcanics, basalt of Mainwaring River area) (Ꞓcwb).
Dolerite (small bodies at Port Davey and upper Franklin River) (Ꞓm).
Tholeiitic basalt (Lucas Creek Volcanics, correlates of Crimson Creek Formation basalts) (Ꞓdb).
Alkali basalt ('Montana Melaphyre', within Donah Formation near Zeehan) (Ꞓob).
Amphibolite within Tyennan Region (Ꞓta) and within Arthur Metamorphic Complex (Ꞓaa).
ROCKY CAPE REGION
(ONLY AT AHRBERG BAY ON THIS SHEET)
ARTHUR METAMORPHIC COMPLEX
Ꞓb
Ꞓc
Ꞓv
Ꞓd
Ꞓdq
Ꞓs
Ꞓcw
Ꞓcwc
Ꞓp
Ꞓpd
Ꞓpo
Ꞓpod
Ꞓpf
Ꞓpt
Ꞓpm
Ꞓpq
Ꞓph
Ꞓpb
Ꞓpa
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Ꞓdq
Ꞓs
Ꞓcw
Ꞓcwc
Ꞓp
Ꞓpd
Ꞓpo
Ꞓpod
Ꞓpf
Ꞓpt
Ꞓpm
Ꞓpq
Ꞓph
Ꞓpb
Ꞓpa
Ꞓpar
Ꞓpal
Ꞓdsvl
Ꞓdv
Ꞓqfp
Ꞓgr
Ꞓg
Ꞓba
Ꞓbl
Ꞓblg
Ꞓt
Ꞓas
Ꞓaq
Ꞓac
Ꞓs
Ꞓcw
Ꞓcwc
Ꞓwc
Ꞓwt
Ꞓwa
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Ꞓcwb
Ꞓdb
Ꞓob
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Ꞓdq
Ꞓs
Ꞓcw
Ꞓcwc
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