Tasmanian Government

Department of State Growth

MINERAL RESOURCES TASMANIA

GEOLOGY OF NORTHWEST TASMANIA

SCALE 1:250 000

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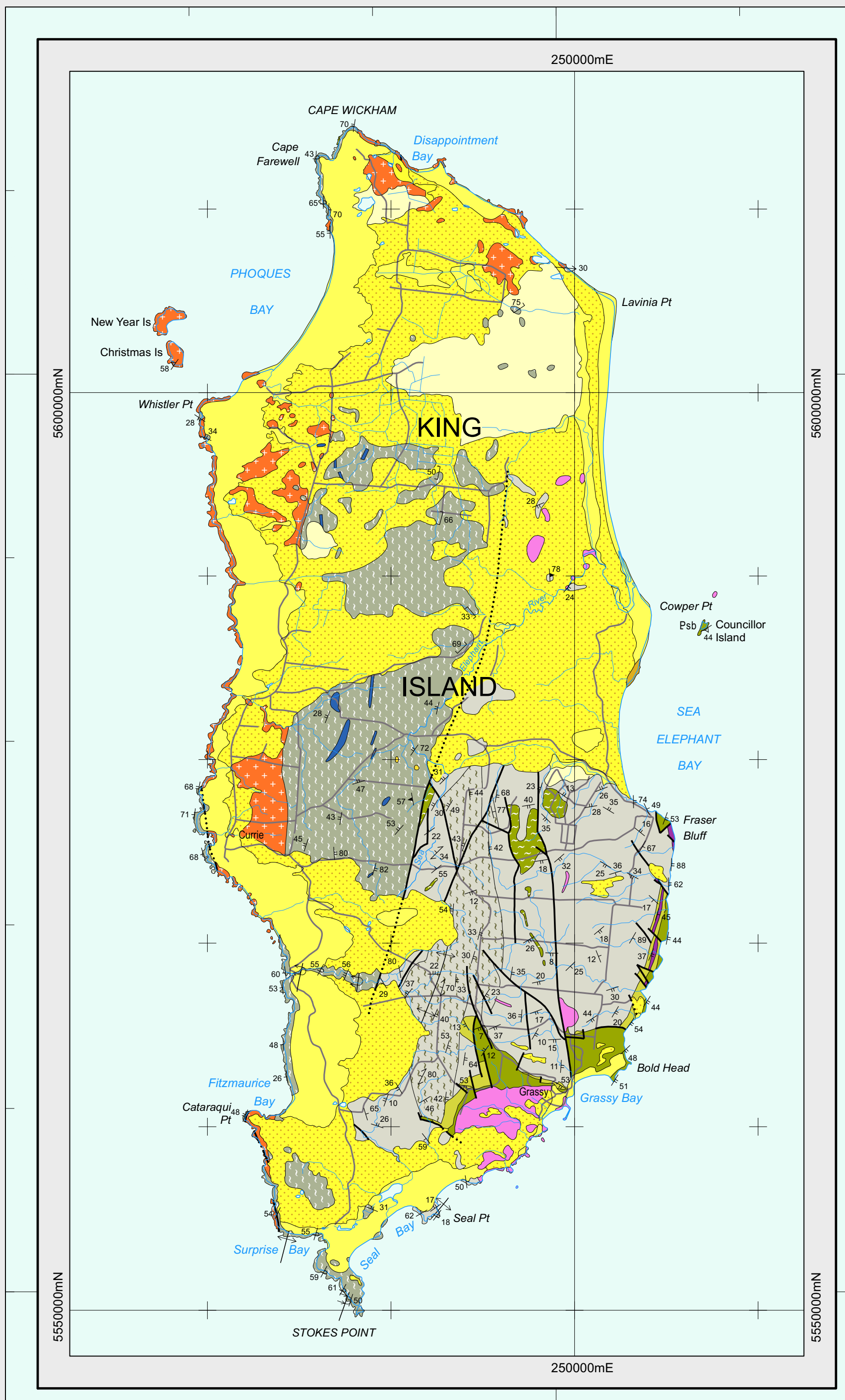

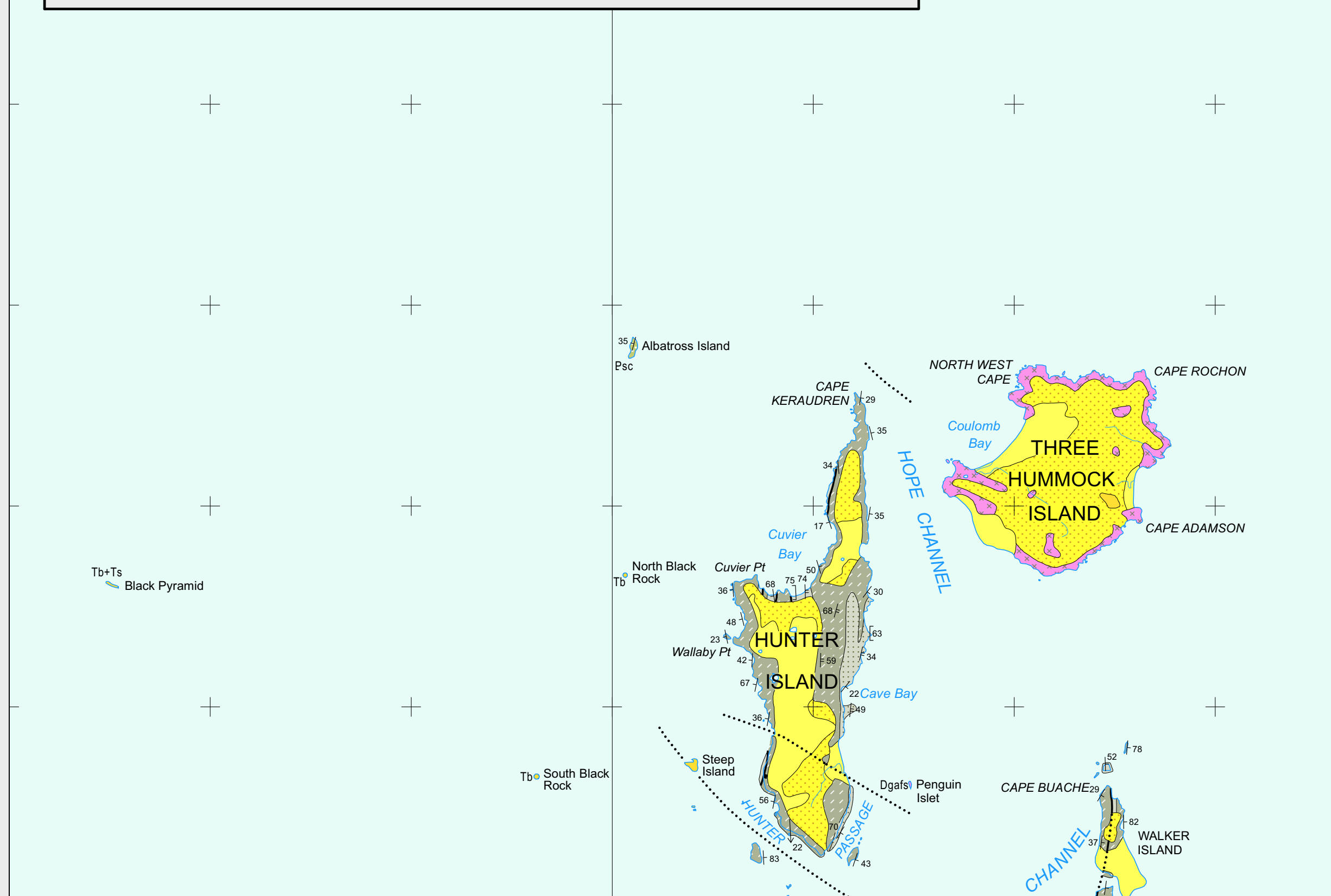

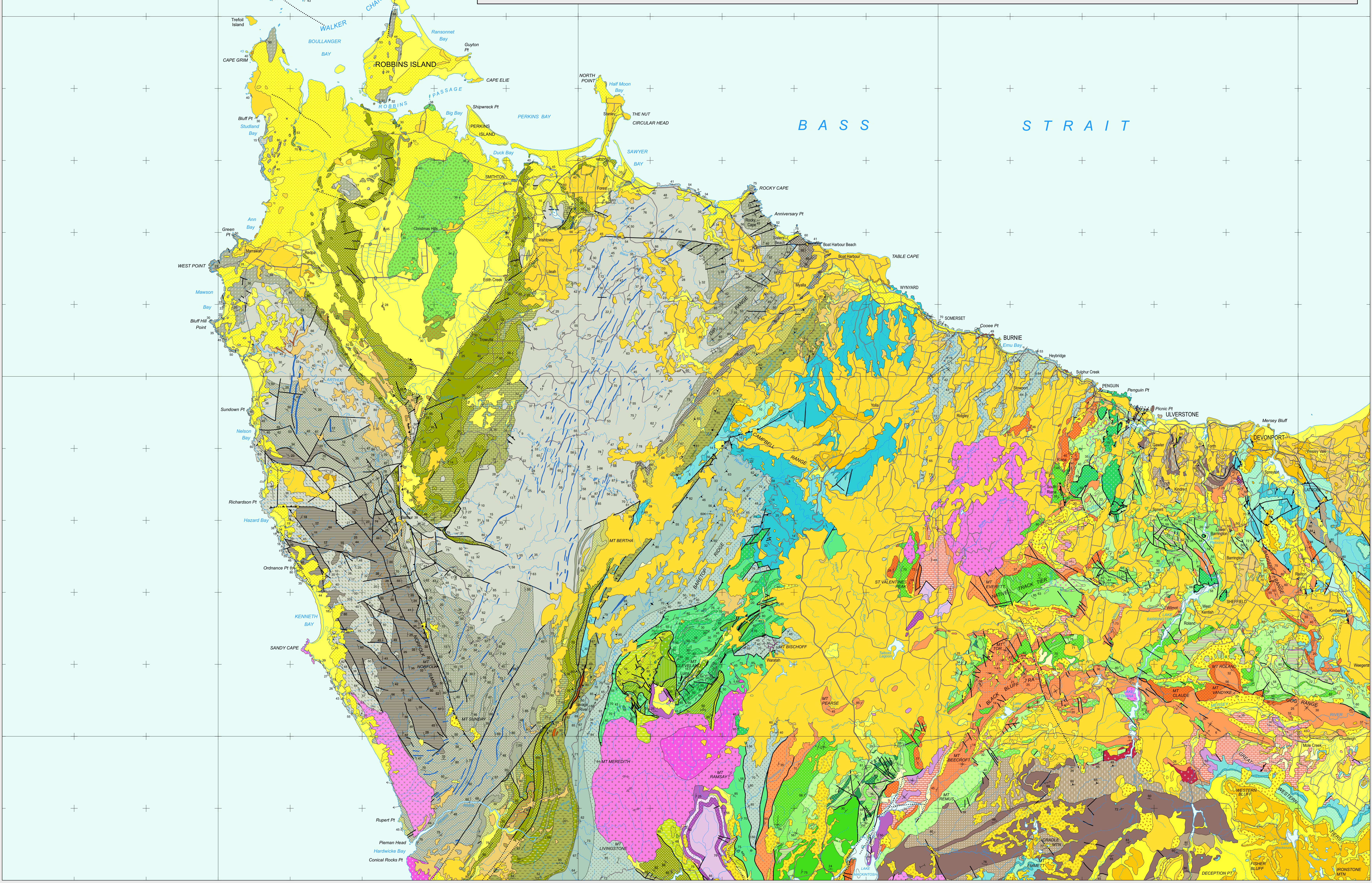

CENOZOIC	QUATERNARY	HOLOCENE / PLEISTOCENE

Unit	Description
Qh	*Sand, gravel, and mud of alluvial, lacustrine and littoral origin (Qh).*
Qp / Qpt	*Glacial, periglacial and fluvioglacial sediments including till and interglacial deposits (Qp); talus, vegetated and active (Qpt).*
Qpg	*Glacial and glacigene deposits (Qpg).*
Qps	*Coastal sand and gravel (Qps).*
Qpl	*Limestone (Qpl).*
Q	

Erosional surface

PALEOGENE-NEOGENE

Unit	Description
Ts / Tm / Tf	*Dominantly non-marine sequences of sand and gravel, silt clay and regolith (Ts); marine limestone (Tm); ferricrete and laterite derived from basalt (Tf).*
Tb	*Basalt (tholeiitic to alkalic) and related volcaniclastic rocks (Tb).*
Tc	*Conglomerate, gravel and grit (Tc).*

Erosional surface.

MESOZOIC – TRIASSIC; PALEOZOIC – PERMIAN, CARBONIFEROUS

Unit	Description
R	*Undifferentiated fluviolacustrine sequences of sandstone, siltstone and mudstone (R).*
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 / Pt	*Lower glaciomarine sequences of mudstone, pebbly mudstone, pebbly sandstone, minor limestone and tasmanite oil shale (Pl); basal tillite (Pt).*
P	

UPPER / LOWER PARMEENER SUPERGROUP

~~~~~~~~~~~~ *Angular unconformity.*

PALEOZOIC: DEVONIAN, SILURIAN, ORDOVICIAN, CAMBRIAN (FURONGIAN, CAMBRIAN SERIES 3, ? TERRENEUVIAN - CAMBRIAN SERIES 2)

SMITHTON - ROCKY CAPE REGION

Unit	Description
Ꞓm	*Polymict conglomerate, lithicwacke, siltstone and mudstone with rare marine fossils (Scopus Formation) (Ꞓm).*

Inferred disconformity

NEOPROTEROZOIC: EDIACARAN, CRYOGENIAN — TOGARI GROUP, AHRBERG GROUP AND CORRELATES

Unit	Description
Ᵽsr	*Pale-weathering, thin bedded, laminated quartz siltstone with subordinate inter-bedded fissile shale, commonly silicified (Salmon River Siltstone) (Ᵽsr).*
Ᵽsd	*Shallow marine dolomite and minor limestone (Smithton Dolomite and correlates) (Ᵽsd).*
Ᵽsv / Ᵽsb	*Turbiditic mudstone, siltstone, lithic-wacke and diamictite with dominantly mafic detritus (Ᵽsv); tholeiitic basalt (Spinks Creek Volcanics, Bernafai Volcanics and correlates) (Ᵽsb).*
Ᵽss / Ᵽsc	*Shallow marine dolomite, chert, shale and diamictite (Black River Dolomite, Savage Dolomite and correlates) (Ᵽss); basal siliceous conglomerate and sandstone (Forest Conglomerate and Quartzite, Donaldson Formation and correlates) (Ᵽsc).*
Ᵽs	

~~~~~~~~~~~~ *Low-angle unconformity or inferred disconformity.*

NEOPROTEROZOIC(?) – TONIAN(?); MESOPROTEROZOIC – STENIAN, ECTASIAN, CALYMMIAN(?) — ROCKY CAPE GROUP

Unit	Description
Ᵽrs	*Unassigned quartzite sequences (Ᵽrs).*
Ᵽrj	*Shallow marine to peritidal, well-bedded, cross-bedded ortho-quartzite, platy quartzite and siltstone (Jacob Quartzite) (Ᵽrj).*
Ᵽri	*Shallow marine laminated grey siltstone, mudstone and dolomite (Irby Siltstone) (Ᵽri).*
Ᵽrd	*Shallow marine to peritidal, well-bedded, cross-bedded ortho-quartzite and subordinate siltstone (Detention Subgroup) (Ᵽrd).*
Ᵽrc	*Dominantly dark, laminated, commonly pyritic, marine siltstone and mudstone (Cowrie Siltstone and similar sequences) (Ᵽrc).*
Ᵽrb	*Interbedded cross-bedded quartz sandstone and siliceous-carbonaceous siltstone, fining up to laminated chloritic siltstone (Balfour Subgroup) (Ᵽrb).*
Ᵽrbs	*Some areas of ± massive quartz sandstone indicated (Ᵽrbs).*
Ᵽrl	*Parallel-to cross-bedded quartz sandstone with rare quartz-pebble conglomerate and shale (Lagoon River Quartzite) (Ᵽrl).*
Ᵽrp	*Interbedded to interlaminated siltstone and quartz siltstone-sandstone with erosional structures, grading and cross-lamination (Pedder River Siltstone) (Ᵽrp).*

ARTHUR METAMORPHIC COMPLEX

Unit	Description
Ᵽac / Ᵽacb / Ᵽaa	*Chloritic schist, with minor phyllite, dolomite and magnesite (Ᵽac); lithologically diverse units of magnesite-stone, dolostone, metamafics and talc, chlorite albite and amphibole schists. Includes magnetite ore and magnesian skarns (Ᵽacb); amphibolite (Ᵽaa).*
Ᵽap	*Phyllite with minor pelitic schist, foliated quartzite and dolomite, and rare conglomerate (Ᵽap).*
Ᵽat	*Quartz mica schist, quartzite, phyllite and rare dolomite (Keith Schist and correlates) (Ᵽat).*

CONTACTS

Symbol	Description
───	*Geological contact.*
───	*Limit of mapping of sub-unit within undifferiented rock unit.*

FAULTS

Symbol	Description
───	*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

Symbol	Description
↕	*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.*

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.

─── *Erosional surface.*

Unit	Description
Dc	*Terrestrial cavern fillings (Eugenana Beds) (Dc).*

~~~~~~~~~~~~ *Angular unconformity attributed to major polyphase orogeny.*

WURAWINA SUPERGROUP — ELDON GROUP, GORDON GROUP, OWEN GROUP

Unit	Description
SDb	*Siltstone, shale and fine-grained sandstone (Bell Shale and correlates) (SDb).*
SDf	*Shallow marine quartz sandstone (Florence Quartzite and correlates) (SDf).*
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).*
SD	
Ol	*Dominantly shallow marine limestone with minor siltstone and sandstone (Gordon Group) (Ol).*
ꞒO	*Undifferentiated or poorly constrained conglomerate-sandstone sequences of Furongian to Ordovician age (ꞒO).*
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.*
ꞒOs / ꞒOb	*Shallow marine sandstone, typically pink, cross-bedded to thin-bedded, with some siltstone and minor conglomerate. Includes Upper Owen Sandstone (ꞒOs). Basalt lava (ꞒOb).*
ꞒOc	*Mainly siliciclastic conglomerate with sandstone interbeds, shallow marine to non-marine, pebble to boulder grade. Includes Middle Owen Conglomerate, Dial Conglomerate, Roland Conglomerate (ꞒOc).*
ꞒOms	*Marine sandstone-siltstone-conglomerate sequences, typically tubiditic, siliciclastic to polymict. Furongian fossils in places. Includes Newton Creek Sandstone, Middle Owen Sandstone, upper Dundas Group, much of 'Rosebery Group' (ꞒOms).*

~~~~~~─── *Diachronous contacts; angular unconformity in some areas, apparent conformity in others.*

TULLAH - DIAL RANGE - FOSSEY MOUNTAINS REGION

MT READ VOLCANICS

Unit	Description
Ꞓds	*Dominantly sedimentary sequences with minor volcanic and volcaniclastic units (Ꞓds).*
Ꞓdt / Ꞓdtl	*Upper sequence of felsic to intermediate volcaniclastic and volcanic rocks, with sedimentary units, of Cambrian Series 3 age. Tyndall Group and correlates (Ꞓdt). Felsic lavas within Tyndall (Ꞓdtl).*
Ꞓda	*Andesitic lavas, breccias and intrusive rocks. Includes, Que-Hellyer Volcanics, Beulah andesite (Ꞓda).*
Ꞓdsv	*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 (Ꞓdsv).*
Ꞓdb	*Basaltic volcanics and minor intrusives (Ꞓdb).*
Ꞓdsvl	*Felsic lavas within Western Volcano-Sedimentary sequence (Ꞓdsvl).*
Ꞓdv	*Dominantly felsic to intermediate volcanic rocks, typically massive, feldspar-phyric. Central Volcanic Complex (Ꞓdv).*
Ꞓdq	*Dominantly felsic volcanic, volcaniclastic and intrusive rocks, typically quartz-feldspar-phyric. Eastern Quartz-Phyric Sequence and correlates (Ꞓdq).*
Ꞓdsq	*Silciclastic sandstone-siltstone-conglomerate units of metamorphic derivation. Includes Sticht Range Beds, Animal Creek Greywacke (Ꞓdsq).*
Ꞓs / Ꞓt / Ꞓb	*Layered peridotite, serpentinite and associated rocks (Ꞓs); tonalite and associated rocks (Ꞓt); undifferentiated low-Ti tholeiitic and boninitic lavas (Ꞓb). Structurally emplaced.*
Ꞓw / Ꞓwq / Ꞓwb / Ꞓwc	*Mafic volcaniclastic sandstone-siltstone-mudstone-chert-minor carbonate sequences, with intercalated tholeiitic basalt flows. Considered allochthonous. Luina Group and correlates (Ꞓcw). Dominantly micaceous quartzose lithicwacke, including Crescent Spur Sandstone (Ꞓcwq). Tholeiitic basalt and picrite units (Ꞓcwb). Chert-rich sequences, including Barrington Chert (Ꞓcwc).*

Unit	Description
Ᵽdv	*Turbiditic volcaniclastic and mafic volcanic rocks (Crimson Creek Formation and correlates) (Ᵽdv).*
Ᵽds	*Shallow marine quartz sandstone and siltstone with carbonate and chert beds (Success Creek Group and correlates) (Ᵽds).*

~~~~~~~~~~ *Angular unconformity.*

Unit	Description
Ᵽo / Ᵽod	*Quartzwacke turbidite sequences with minor dolomite (Ᵽo); Dolomitic mudstone, siltstone and sandstone (Ᵽod). (Burnie and Oonah Formations and correlates).*
Ᵽob	*Alkali basalt and dolerite (within Burnie and Oonah Formations, includes Cooee Dolerite) (Ᵽob).*

KING ISLAND

GRASSY GROUP

Unit	Description
Ᵽyv	*Tholeiitic basalt and picrite (Skipworth Subgroup) (Ᵽyv).*
Ᵽys	*Shale, siltstone, diamictite, minor carbonate and basaltic lava (Ᵽys).*

TYENNAN AND SIMILAR REGIONS

Unit	Description
Ᵽts	*Undifferentiated metasedimentary sequences, with greenschist facies metamorphism (Ᵽt). Dominantly quartzite sequences (Ᵽts).*
Ᵽtp	*Dominantly pelitic sequences, mainly phyllite (Ᵽtp).*
Ᵽtpg	*Garnetiferous pelitic schist (Ᵽtpg).*
Ᵽtb	*Dominantly schistose conglomerate (Goat Island Conglomerate and correlates) (Ᵽtb).*
Ᵽt	

Unit	Description
Ᵽb / Ᵽf / Ᵽfg	*Micaceous quartzite, schist, phyllite and minor amphibolite (Ᵽb) (Suprise Bay Formation); quartz siltstone and mudstone (Ᵽf) (Fraser Formation); garnetiferous metamorphic equivalents (Ᵽfg).*

IGNEOUS ROCKS

Age	Unit	Description
CENOZOIC – PALEOGENE-NEOGENE	Tb	*Basalt (tholeiitic to alkalic) and related volcaniclastic rocks (Tb).*
MESOZOIC – JURASSIC	Jd	*Dolerite (tholeiitic) with locally developed granophyre (Jd).*
DEVONIAN - CARBONIFEROUS (LOWER DEVONIAN - MISSISSIPPIAN)	Dg / Dga / Dgas / Dgaf / Dgafs / Dgaa / Dgaas	*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 (Dgaa); S-type (Dgaas).*
	Dgn	*Dominantly granodiorite/adamellite, I-type (Dgn).*
ORDOVICIAN	ꞒOb	*Tholeiitic basalt (Mt Tor area; upper Wilmot River) (ꞒOb).*
	ꞒOd	*Tholeiitic dolerite (Black Bluff Range) (ꞒOd).*
CAMBRIAN – CAMBRIAN SERIES 3 - FURONGIAN (MT READ VOLCANICS (IN PART) AND ASSOCIATED INTRUSIVES)	Ꞓdtl	*Felsic lavas within Tyndall Group (Ꞓdtl).*
	Ꞓdsvl	*Felsic lavas within Western Volcano-Sedimentary Sequence (Ꞓdsvl).*
	Ꞓdb	*Basaltic volcanics and minor intrusives (including Hellyer basalt) (Ꞓdb).*
	Ꞓda	*Andesitic lavas, breccias and intrusive rocks (Ꞓda).*
	Ꞓdai	*Major andesitic to dacitic intrusives, including Beulah Granite' and Lobster Creek Intrusives (Ꞓdai).'*
	Ꞓdv	*Felsic to intermediate volcanic rocks (Central Volcanic Complex of Mt Read Volcanics) (Ꞓdv).*
	Ꞓqfp	*Quartz feldspar porphyry (Ꞓqfp).*
	Ꞓgr	*Granite, (includes Dove Granite) (Ꞓgr).*
	Ꞓdd	*Dolerite (Mt Charter area; upper Leven River); diorite (Wilmot and Riana areas) and basalt (Gog Range area) (Ꞓdd).*
	Ꞓg	*Gabbroic rocks (Ꞓg).*
? TERRENEUVIAN - CAMBRIAN SERIES 2	Ꞓb / Ꞓbt / Ꞓbtv	*Low-titanium tholeiitic lavas (Ꞓbt); derived coarse-grained volcaniclastics (Ꞓbtv).*
	Ꞓbp	*Picritic lava and breccia (Ꞓbp).*
	Ꞓba	*Boninitic lavas (Ꞓba).*
	Ꞓt	*Tonalite and associated rocks (Ꞓt).*
	Ꞓs / Ꞓsd / Ꞓsp	*Layered peridotite, serpentinite and associated rocks (Ꞓs); dominantly serpentinised layered dunite and harzburgite ("LDH association") (Ꞓsd); dominantly layered pyroxenite and dunite ("LPD association") (Ꞓsp).*
	Ꞓcwb	*Tholeiitic basalt (within Luina Group and correlates; includes 'Motton Spilite') (Ꞓcwb).*
NEOPROTEROZOIC – EDIACARAN	Ᵽsb / Ᵽyv	*Tholeiitic basalt (Spinks Creek Volcanics, Bernafai Volcanics and correlates) (Ᵽsb); with picrite (Skipworth Subgroup) (Ᵽyv).*
CRYOGENIAN	Ᵽyg	*Subvolcanic andesitic intrusives (Grimes Intrusive Suite; on King Island) (Ᵽyg).*
	Ᵽm	*Tholeiitic dolerite dykes (Tayatea Dyke Swarm) (Ᵽm).*
	Ᵽg	*Granitic rocks (on King Island) (Ᵽg).*
	Ᵽob	*Alkali basalt and dolerite (within Burnie and Oonah Formations; includes Cooee Dolerite) (Ᵽob).*
	Ᵽaa	*Amphibolite (Ᵽaa).*

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.

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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 2024.1.
Digital Geological Atlas 1:250 000 Scale Series.
Mineral Resources Tasmania.

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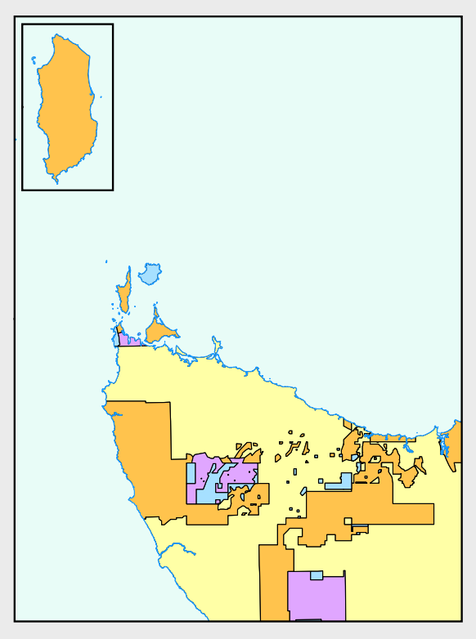
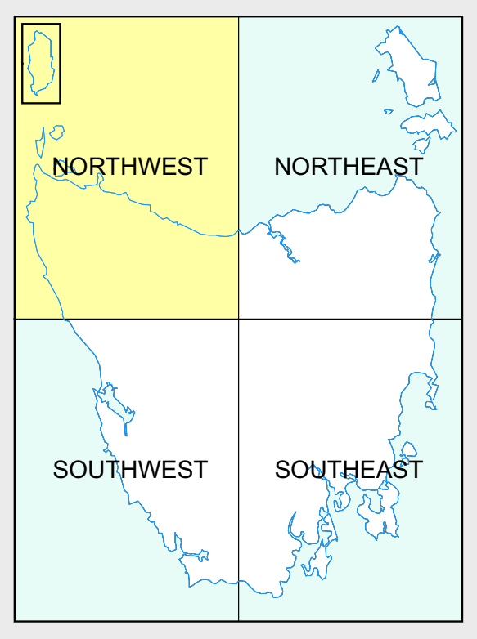


Key	Description
🟧	Highly detailed (eg. more detailed than 1:25 000 scale mapping).
🟧	Detailed systematic (eg.1:25 000 map or equivalent detail).
🟨	Regional systematic (eg.1:50 000, 1:63 360 map or equivalent detail).
🟩	Regional mapping less detailed than 1:63 360 map or equivalent (all other scales).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

LOCATION DIAGRAM



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THIS MAP IS EDITION 2024.1
BASED ON A STATEWIDE DATASET
Map generated: 18-Nov-2024
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