Tasmania
Explore the possibilities

Department of Infrastructure Energy and Resources
MINERAL RESOURCES TASMANIA

1:250,000 GEOLOGY OF TASMANIA (STATE LEGEND)

CENOZOIC — QUATERNARY — PLEISTOCENE — HOLOCENE

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

Erosional surface

NEO- / PALEO-GENE

- Tt — Dominantly non-marine sequences of gravel, sand, silt, clay and regolith (Ts); marine limestone (Tm); ferricrete, laterite and derived lag deposits (Tt); basalt (tholeiitic to alkalic) and related volcaniclastic rocks (Tb); conglomerate, gravel and grit (Tc).
- Tm, Tb, Tc, Ts

Erosional surface.

MESOZOIC — JURASSIC

- Jb — Basalt (tholeiitic), comagmatic with Jurassic dolerite (Lune River area) (Jb).

Erosional surface.

TRIASSIC

- Rvc, Rvb, Rv, Rvv, Rq — Undifferentiated fluviolacustrine sequences of sandstone, siltstone and mudstone (R); dominantly lithic volcaniclastic sandstone (Rvc); lithic sandstone, siltstone, mudstone and felsic tuff with some coal and basal quartz sandstone (Rvc); alkali olivine basalt/hawaiite (St Marys area) (Rb); dominantly siltstone, lithic sandstone and mudstone (Rvv); dominantly quartz sandstone (Rq).

UPPER PARMEENER SUPERGROUP

PERMIAN — CARBONIFEROUS

- Pc, Pv, Pl, Pt — Undifferentiated glacial, glaciomarine and non-marine sedimentary rocks (P); 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 (Pl); basal tillite (Pt).

LOWER PARMEENER SUPERGROUP

Angular unconformity.

PALEOZOIC — DEVONIAN — SILURIAN — ORDOVICIAN — CAMBRIAN — FURONGIAN

Strike and dip of bedding; right way up; overturned; facing unknown; vertical with facing unknown; horizontal.

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; vertical; trend of foliation trace on horizontal surface.

Geological boundary.

Fault.

Wrench fault with relative displacement indicated.

Concealed fault.

Axial trace of major antiform.

Axial trace of major synform.

Axial trace of overturned major antiform.

Axial surface of overturned major synform.

Form lines.

WESTERN TASMANIA

- Qc — Terrestrial cavern fillings (Eugenana Beds) (Qc).

Angular unconformity attributed to major polyphase orogeny.

CAMBRIAN — CAMBRIAN SERIES 3

- SDb, SDd — 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) (SDb); limestone (SDl).
- SDf — Shallow marine quartz sandstone (Florence Quartzite, Currawong Quartzite and correlates) (SDf).
- SDa — Siltstone, shale and minor quartz sandstone (Austral Creek Siltstone, Amber Slate, Keel Quartzite and Richea Siltstone) (SDa).
- SDc — Shallow marine quartz sandstone and pebble conglomerate (Crotty Quartzite, Gell Quartzite and correlates) (SDc).

ELDON GROUP — TIGER RANGE GROUP

- Olo — Mainly siltstone and fine-grained sandstone (Arndell Sandstone, 'Rinadeena Shale' and correlates) (Olo).
- Ol — Dominantly shallow marine limestone with minor siltstone and sandstone. Gordon Group (Ol).

GORDON GROUP

- Ou — Undifferentiated or poorly constrained conglomerate–sandstone sequences of Furongian to Ordovician age (€O).
- Os — Shallow marine sandstone–mudstone +/– conglomerate +/– limestone sequences, typically grey. Ordovician fossils and trace fossils in places. Includes Moina Sandstone, Pioneer Beds, Butler Island Formation (Os).

Unconformity on older rocks in places.

- €Os, €Ob — Shallow marine sandstone, typically pink, cross-bedded to thin-bedded, with some siltstone and minor conglomerate. Includes Upper Owen Sandstone (€Os). Basalt lava (€Ob).
- €Oc — Mainly quartz-rich conglomerate with sandstone interbeds, shallow marine to non-marine, pebble to boulder grade. Includes Middle Owen Conglomerate, Mt Zeehan Conglomerate, Roland Conglomerate (€Oc).
- €Oms — 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 (€Oms).
- €Ocl — Lower conglomerate sequences in some areas, typically pebble to boulder grade, with sandstone interbeds. Includes Lower Owen Conglomerate (€Ocl).

OWEN GROUP, DERWENT GROUP AND CORRELATES — MATHINNA SUPERGROUP

Angular unconformity in some areas, apparent conformity in others.

EASTERN TASMANIA

Angular unconformity.

- Dp — Felsic pyroclastic rocks (St Marys Porphyry, volcanic equivalent of I-type granodiorite) (Dp).

Angular unconformity

- Dpsf, SDp, SDps, SDpt, SDpm, SDpr, SDpy — Turbiditic sandstone and siltstone (Panama Group) (SDp); dominantly turbiditic mudstone (SDpm). Turbiditic quartz-rich sandstone with minor siltstone–mudstone (Scamander Formation) (Dpsf). Turbiditic quartz-rich sandstone with some interbedded siltstone (Sideling Sandstone) (SDps). Dominantly siltstone, with interbedded quartz-rich sandstone increasing towards top (Lone Star Siltstone) (SDpt). Interbedded turbiditic quartz-rich sandstone and subordinate siltstone–mudstone (Retreat Formation) (SDpr). Interbedded mudstone and subordinate siltstone (Yarrow Creek Mudstone) (SDpy).

Faulted contacts

- Ott, Ottt, Otts — Phyllitic slate (Turquoise Bluff Slate) (Ott). Interbedded slate and quartz-rich sandstone (Industry Road Member) (Ottt). Turbiditic quartz-rich sandstone and minor slate (Story Head Sandstone) (Ots).

MATHINNA SUPERGROUP

SMITHTON – ROCKY CAPE REGION

- Cm — Polymict conglomerate, lithicwacke, siltstone and mudstone with rare marine fossils (Scopus Formation) (Cm).

Inferred disconformity

?TERRENEUVIAN – CAMBRIAN SERIES 2

- Psr, Psd, Psv, Ps, Pss, Psc — Pale-weathering, thin bedded, laminated quartz siltstone with subordinate interbedded fissile shale, commonly silicified (Salmon River Siltstone) (Psr). Shallow marine dolomite and minor limestone (Smithton Dolomite and correlates) (Psd). Turbiditic mudstone, siltstone, lithicwacke and diamictite with dominantly mafic detritus (Psv); tholeiitic basalt (Spinks Creek Volcanics, Bernafai Volcanics and correlates) (Psb). Shallow marine dolomite, chert, shale and diamictite (Black River Dolomite, Savage Dolomite and correlates) (Ps). Quartz-pebble conglomerate and sandstone (Forest Conglomerate and Quartzite, Donaldson Formation and correlates) (Psc).

GRASSY GROUP — TOGARI GROUP, AHRBERG GROUP AND CORRELATES

Low-angle unconformity or inferred disconformity.

KING ISLAND

EDIACARAN

- Pyv — Tholeiitic basalt and picrite (Skipworth Subgroup) (Pyv).
- Pys — Shale, siltstone, minor carbonate and basaltic lava (Pys).

CRYOGENIAN

ARTHUR METAMORPHIC COMPLEX

- Poc — Chloritic schist, with minor phyllite, dolomite and magnesite (Poc); amphibolite (Poa).
- Pop — Phyllite with minor pelitic schist, foliated quartzite and dolomite, and rare conglomerate (Pop).
- Pot — Quartz–mica schist, quartzite, phyllite and rare dolomite (Keith Schist and correlates) (Pot).

DUNDAS, FOSSEY MOUNTAINS AND DIAL RANGE TROUGHS OF WESTERN AND NORTHERN TASMANIA

- Cds, Cdt, Cdtl, Cdq, Cdd, Cdv, Cdq, Cdsv, Cdsv, Cds, €Occ, €Ocl — Dominantly sedimentary sequences with minor volcanic and volcaniclastic units (Cds). Upper sequence of felsic to intermediate volcaniclastic and volcanic rocks, with sedimentary units, of Cambrian Series 3 age. Tyndall Group and correlates (Cdt). Felsic lavas within Tyndall Group (Cdtl). Andesitic lavas, breccias and intrusive rocks. Includes Anthony Road Andesite, Que–Hellyer Volcanics, Beulah andesite (Cdq). Dominantly volcano–sedimentary sequences with some felsic to intermediate volcanic rocks, Cambrian Series 3 age fossils in places. Western Volcano–Sedimentary sequences, including 'Yolande River Sequence, part of lower Dundas Group, Mt Charter Group, Cog Range Greywacke (Cdsv). Basaltic volcanics and minor intrusives(Cdb). Felsic lavas within Western Volcano–Sedimentary sequence (Cdsvl). Dominantly felsic to intermediate volcanic rocks, typically massive, feldspar–phyric. Central Volcanic Complex of Mt Read Volcanics (Cdv). Dominantly felsic volcanic, volcaniclastic and intrusive rocks, typically quartz–feldspar–phyric. Eastern Quartz–Phyric Sequence and correlates (Cdq). Quartz–rich sandstone–siltstone–conglomerate units of metamorphic derivation, includes Sticht Range Beds, Animal Creek Greywacke, Miners Ridge Sandstone (Cdsq).

MT READ VOLCANICS

- Cs, Cl, Cb, Cbl — Layered peridotite, serpentinite and associated rocks (Cs); tonalite and associated rocks (Ct); undifferentiated low–Ti tholeiitic and boninitic lavas (Cb); boninitic lavas (Cba); low–Ti tholeiitic lavas (Cbl). Structurally emplaced.
- Ccw, Cbwb, Cbwc — Mafic volcaniclastic sandstone–siltstone–mudstone–chert–minor carbonate sequences, with intercalated tholeiitic basalt flows. Considered allochthonous. Luina Group and correlates, including 'Mainwaring Group' (Ccw). Tholeiitic basalt and picrite units, includes Guilfoyle Creek Basalt, Birchs Inlet Volcanics, Mattson Spilite and basalt of Mainwaring River area (Ccwb). Chert–rich sequences, including Barrington Chert (Ccwc).

ADAMSFIELD – JUBILEE REGION

- Co, Cos, Coq, Coc — Undifferentiated conglomerate–sandstone sequences (Co); lithicwacke and conglomerate, may contain ultramafic detritus (Col); dominantly conglomerate and lithic sandstone (upper member of Trial Ridge Beds) (Cos); dominantly quartzwacke and lithicwacke turbidite with rare fossils in some sequences (Coq); dominantly quartz–rich conglomerate and sandstone (Coc). Cos, Coq, Coc: Crotch Conglomerate and sandstone, Jubilee Road Formation, Boyd River Formation, Trial Ridge Beds and possible correlates including Clytie Cove Group and Ironbound Group).

Angular unconformity of Co on Pw, Pt.

- Cs, Csd — Layered peridotite, serpentinite and associated rocks (Cs); dominantly serpentinised layered dunite and harzburgite ("LDH association") (Csd). Structurally emplaced.
- Ccw, Cbwb, Cbwc — Feldspathic and quartz–rich lithicwacke, mudstone and chert sequences. Considered allochthonous. Luina Group and correlates, including 'Ragged Basin Complex' (Ccw). Tholeiitic basalt and picrite units (Ccwb). Chert–rich sequences (Ccwc).

?TERRENEUVIAN – CAMBRIAN SERIES 2

- Pw, Pwc, Pwt, Pwo — Dolomite, diamictite and mudstone (Pwc). Shallow marine dolomite (Pwt); basal conglomerate and sandstone (Pwa).

WELD RIVER GROUP AND CORRELATES

Angular unconformity or inferred disconformity. Low–angle unconformity or inferred disconformity.

- Pq — Massive quartz sandstone (Wings Quartzite) (Pq).

TYENNAN AND SIMILAR REGIONS

- Puf — Schistose conglomerate, quartzite, slate, phyllite and silicified carbonate (sequences of uncertain assignment including Wedge River Beds) (Puf).

Inferred angular unconformity of Puf on Pt.

- Pt, Ptsl, Ptsg, Ptp, Ptpc, Ptpg, Ptd, Ptb — Undifferentiated metasedimentary sequences, with greenschist facies metamorphism (Pt). Dominantly quartzite sequences (Pts). Platy or schistose micaceous quartzite (Ptsl). Garnetiferous quartzite (Ptsg). Dominantly pelitic sequences, mainly phyllite (Ptp). Pelitic schist (Ptpc). Garnetiferous pelitic schist (Ptpg). Dolomite (Ptd). Dominantly schistose conglomerate (Goat Island Conglomerate and correlates) (Ptb).

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

ROCKY CAPE GROUP

- Pc, Pcm, Pcd, Pcq — Dominantly laminated marine mudstone and siltstone (Pcm); dominantly shallow marine carbonate (Pcd); dominantly shallow marine, cross–bedded orthoquartzite (Pcq).
- Ph — Quartz–rich lithicwacke, conglomerate and black slate (Ph).

CLARK GROUP AND CORRELATES

ECTASIAN

- Pf, Pb, Pfg — Micaceous quartzite, schist, phyllite and minor amphibolite (Pb); quartz siltstone and mudstone (Pf); garnetiferous metamorphic equivalents (Pfg).

IGNEOUS ROCKS

CENOZOIC — CRETA-CEOUS — PALEOGENE-NEOGENE

- Tb — Basalt (tholeiitic to alkalic) and related volcaniclastic rocks (Tb).
- Ks — Shoshonitic to latitic lava and intrusive rocks (Cape Portland area) (Ks).

MESOZOIC — TRIASSIC — JURASSIC

- Ky — Syenite and related alkaline rocks (Cygnet and Kettering area) (Ks).
- Jb — Basalt (tholeiitic), comagmatic with Jurassic dolerite (Lune River area) (Jb).
- Jd — Dolerite (tholeiitic) with locally developed granophyre (Jd).
- Rb — Alkali olivine basalt/hawaiite (St Marys area) (Rb).
- Dd — Dolerite dykes (Dd)
- Dl — Lamprophyre dykes and intrusive bodies (Dl).

DEVONIAN–CARBONIFEROUS — LOWER DEVONIAN–MISSISSIPPIAN

- Dgs, Dgsf, Dgsfs, Dgsp, Dgspsf, Dgsps, Dg — Undifferentiated granitic rocks (Dg); undifferentiated alkali–feldspar granite/granite/monzogranite, I–type (Dgs); S–type (Dgss); dominantly alkali–feldspar granite, I–type (Dgsf); S–type (Dgsfs); dominantly granite/syenogranite/monzogranite, I–type (Dgsp); S–type (Dgssp).
- Dgn — Dominantly monzogranite/granodiorite, I–type (Dgn).
- Dgr — Dominantly granodiorite, I–type (Dgr).
- Dgd — Dominantly diorite (Dgd).
- Dp — Felsic pyroclastic rocks (St Marys Porphyry, volcanic equivalent of I–type granodiorite) (Dp).

DEVONIAN

ORDOVICIAN — LOWER ORDOVICIAN

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

PALEOZOIC — CAMBRIAN — CAMBRIAN SERIES 3 – MIDDLE CAMBRIAN

- Cdd — Tholeiitic dolerite (Mt Charter area; upper Leven River) and diorite (Wilmot area) (Cdd).
- Cdtl — Felsic lavas within Tyndall Group (Cdtl).
- Cdsvl — Felsic lavas within Western Volcano–Sedimentary Sequence (Cdsvl).
- Cdb — Basaltic volcanics and minor intrusive rocks, includes Que–Hellyer Volcanics (Cdb).
- Cdq — Andesitic lavas, breccias and intrusive rocks (Cdq).
- Cdol — Major intrusive bodies related to andesites, includes Beulah Granite and Lobster Creek Volcanics (Cdo).
- Cdv — Felsic to intermediate, calc–alkaline volcanic rocks (Central Volcanic Complex and correlates) (Cdv).
- Cqfp — Quartz feldspar porphyry (Cqfp).
- Cg — Granite (includes Murchison, Darwin, Elliott Bay and Dove Granite) (Cgr).

MT READ VOLCANICS (IN PART) AND ASSOCIATED INTRUSIVES

- Cg — Gabbroic rocks (Cg).

?TERRENEUVIAN – CAMBRIAN SERIES 2

- Cbl, Cblg, Cb, Cba — Low–Ti tholeiitic lavas (Cbl); gabbroic rocks associated with low–Ti lavas (Cblg). Boninitic lavas (Cba).
- Ct — Tonalite and associated rocks (Ct).
- Csd, Csp, Cs, Csps — Layered peridotite, serpentinite and associated rocks (Cs); dominantly serpentinised layered dunite and harzburgite ("LDH association") (Csd). Dominantly layered pyroxenite and dunite ("LPD association") (Csp). Dominantly serpentinised layered pyroxenite, peridotite and associated gabbro ("LPG association") (Csps).
- Cwb, Cwbb, Cwbc — Tholeiitic basalt and picrite units of Luina Group. Includes Guilfoyle Creek Basalt, Birchs Inlet Volcanics, Mattson Spilite and basalts of Mainwaring River area (Ccwb).

NEOPROTEROZOIC — EDIACARAN

- Psb, Pdb, Pys — Tholeiitic basalt (Spinks Creek Volcanics, Bernafai Volcanics and correlates) (Psb); within Crimson Creek Formation and correlates (Pdb); tholeiitic basalt and picrite (Skipworth Subgroup) (Pys).
- Pyg — Subvolcanic andesitic intrusives (Grimes Intrusive Suite) (Pyg).
- Pdd — Dolerite dykes (Port Sorell area) (Pdd).

CRYO-GENIAN

- Pg — Granitic rocks (on King Island) (Pg).
- Pm — Tholeiitic dolerite (including Rocky Cape Dyke Swarm) (Pm).
- Pob — Alkali basalt and dolerite (within Burnie and Oonah Formations; includes Cooee Dolerite) (Pob).
- Pfa, Poa — Amphibolite within Tyennan Region (Pfa) and within Arthur Metamorphic Complex (Poa).

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