Tasmania
Explore the possibilities

Department of Infrastructure Energy and Resources

MINERAL RESOURCES TASMANIA

GEOLOGY OF NORTHWEST TASMANIA

SCALE 1:250000

0 5 10 15 20 25km

300000mE 350000mE 400000mE 450000mE

5600000mN 5550000mN 5500000mN 5450000mN 5400000mN

250000mE

CAPE WICKHAM
Cape Farewell
Disappointment Bay
PHOQUES BAY
New Year Is
Christmas Is
Lavinia Pt
Whistler Pt
KING ISLAND
Cowper Pt
SEA ELEPHANT BAY
Fraser Bluff
Dune
Bold Head
Grassy
Grassy Bay
Fitzmaurice Bay
Cataraqui Pt
Seal Pt
Surprise Bay
Seal Bay
STOKES POINT

CENOZOIC

QUATERNARY

HOLOCENE

Qh — Sand, gravel, and mud of alluvial, lacustrine and littoral origin (Qh).

PLEISTOCENE

Q: Qgl, Qpg, Qpa, Qpl

Glacial, periglacial and fluvioglacial sediments including till and interglacial deposits (Qg); talus, vegetated and active (Qpr); glacial and glaciglene deposits (Qpg); coastal sand and gravel (Qpa); limestone (Qpl).

Erosional surface

PALEOGENE–NEOGENE

Tm, Ts, Tb

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

Erosional surface.

MESOZOIC

TRIA–JURASSIC

R, Pu, P, Pl, Pf

Undifferentiated fluviolacustrine sequences of sandstone, siltstone and mudstone (R).

Upper glaciomarine sequences of pebbly mudstone, pebbly sandstone and limestone (Pu);

Freshwater and paralic sandstone and mudstone with some coal measures (Pf).

Lower glaciomarine sequences of mudstone, pebbly mudstone, pebbly sandstone, minor limestone and tasmanite oil shale (Pl); basal tillite (Pf).

LOWER – UPPER PARMENEER SUPERGROUP

Angular unconformity.

PALEOZOIC

DEVONIAN

SILURIAN

SD: SDb, SDl, SDs, SDc

Siltstone, shale and fine-grained sandstone (Bell Shale and correlates) (SDb).

Shallow marine quartz sandstone (Florence Quartzite and correlates) (SDl).

Siltstone, shale and minor quartz sandstone (Amber Slate, Keel Quartzite, Austral Creek Siltstone and correlates) (SDs).

Shallow marine quartz sandstone and pebble conglomerate (Crotty Quartzite and correlates) (SDc).

ELDON GROUP

ORDOVICIAN

O: Ol, Os, COs, COc, COq, COmq

Dominantly shallow marine limestone with minor siltstone and sandstone (Gordon Group) (Ol).

Undifferentiated or poorly constrained conglomerate–sandstone sequences of Furongian to Ordovician age (CO).

Shallow marine sandstone–mudstone +/– conglomerate +/– limestone. Ordovician fossils and trace fossils in places. Includes Moina Sandstone, Pioneer Beds (Os). Unconformably 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 (COs). Basalt lava (COb).

Mainly siliciclastic conglomerate with sandstone interbeds, shallow marine to fluvial. Includes Lower Owen Conglomerate, Middle Owen Conglomerate, Dial Conglomerate, Roland Conglomerate (COc).

Marine sandstone–siltstone–conglomerate sequences, typically lubiltic, siliciclastic to polymict. Furongian fossils in places. Includes Newton Creek Sandstone, Middle Owen Sandstone, upper Dundas Group, much of Mossbery Group (COmq).

GORDON GROUP — WARATAWINA SUPERGROUP; OWEN GROUP

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

CAMBRIAN

FURONGIAN

Cm — Polymict conglomerate, lithicwacke, siltstone and mudstone with minor carbonate beds (Scopus Formation) (Cm).

Inferred disconformity

CAMBRIAN SERIES 3

Cds: Cdsvf, Cdsv, Cds, CDds

Dominantly sedimentary sequences with minor volcanic and volcaniclastic units (Cds).

Upper, sedimentary to intermediate volcaniclastic and volcanic units, sedimentary units, of Cambrian Series 3 age. Tyndall Group and correlates (Cdf). Felsic lavas within Tyndall (Cdfl).

Andesitic lavas, breccias and intrusive rocks. Includes Que–Hellyer Volcanics, Beulah andesite (Cda).

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 (Cdsv).

Basaltic volcanics and minor intrusives(Cdb).

Felsic lavas within Western Volcano-Sedimentary sequence (Cdsvf).

Dominantly felsic to intermediate volcanic rocks, typically massive, feldspar-phyric. Central Volcanic Complex (Cds).

Dominantly felsic volcanic, volcaniclastic and intrusive rocks, typically quartz–feldspar-phyric. Eastern Quartz-Phyric Sequence and correlates (Cdq).

Siliciclastic sandstone–siltstone–conglomerate units of metamorphic derivation. Includes Slicht Range Beds, Animal Creek Greywacke (Cdsq).

MT READ VOLCANICS

CAMBRIAN SERIES 2

Cs: Cl, Cc

Layered peridotite, serpentinite and associated rocks (Cs); tonalite and associated rocks (Ct); undifferentiated low–Ti tholeiitic and boninitic lavas (Cb). Structurally emplaced.

Cvw: Cvwl, Cvwf

Mafic volcaniclastic sandstone–siltstone–mudstone–chert–minor carbonate sequences, with intercalated tholeiitic basalt flows. Considered diachronous. Luina Group and correlates (Cvw). Tholeiitic basalt and picrite units (Cvwb). Chert–rich sequences, including Barrington Chert (Cvwc).

TYERRENDEUVIAN – CAMBRIAN SERIES 2 / EDIACARAN

Pv: Pvc, Pvd, Pvb, Pvs, Pvu

Pale–weathering, thin bedded, laminated quartz siltstone with minor mudstone and carbonate. Tasile shale, commonly silicified (Sprent River Siltstone) (Pvr).

Shallow marine dolomite and minor limestone (Smithton Dolomite and correlates) (Pvd).

Turbiditic mudstone, siltstone, lithicwacke and diamictite with dominantly mafic detritus (Pvs); Tyndall Group and Que–Hellyer Volcanics, Bernafai Volcanics and correlates) (Pvb).

Shallow marine dolomite, chert, shale and diamictite (Black River Dolomite, Savage Dolomite and correlates) (Pvu). Basal siliceous and carbonaceous sandstone (Forest Conglomerate and Quartzite, Donatayan Formation and correlates) (Pvc).

Low–angle unconformity or inferred disconformity.

CRYOGENIAN

Pu: Pus, Pvu

Turbiditic volcaniclastic and mafic volcanic rocks (Crimson Creek Formation and correlates) (Pvu).

Shallow marine quartz sandstone and chert beds (Success Creek Group and correlates) (Pus).

Angular unconformity.

KING ISLAND — GRASSY GROUP: Pyv, Pys

Tholeiitic basalt and picrite (Skipworth Subgroup) (Pyv).

Shale, siltstone, diamictite, minor carbonate and basaltic lava (Pys).

NEOPROTEROZOIC

Pw: Pwq, Pwd, Pwb

Quartzwacke turbidite sequences with minor dolomite (Pwb). quartzwacke of high-grade metamorphic provenance (Pwq).

Dolomitic mudstone, siltstone and sandstone (Pwd). (Burnie and Oonah Formations and correlates).

Alkali basalt and dolerite (within Burnie and Oonah Formations, includes Cooee Dolerite) (Pwb).

TOGARI GROUP, ARBERDS GROUP AND CORRELATES

Pmc: Pmcc, Pmb

Chloritic schist, with minor phyllite, dolomite and rhodonite (Pmc); amphibolite (Pmb).

Phyllite with minor pelitic schist, foliated quartzite and dolomite, and rare conglomerate (Pmp).

Pmt — Quartz mica schist, quartzite, phyllite and rare dolomite (Keith Schist and correlates) (Pmt).

MESOPROTEROZOIC

Pr: Prc, Pri, Prd, Prc, Prs, Pri, Prp, Prs

Shallow marine to perilidal, well-bedded, cross-bedded orthoquartzite, pale quartzite and siltstone (Jacob Quartzite) (Prp).

Shallow marine laminated grey siltstone, mudstone and dolomite (Irby Siltstone) (Pri).

Shallow marine to perilidal, well-bedded, cross-bedded orthoquartzite and subordinate siltstone (Detention Subgroup) (Prd).

Dominantly dark, laminated, commonly pyritic, marine siltstone and mudstone (Cowrie Siltstone and correlates) (Prc).

Interbedded cross-bedded quartz sandstone and siliceous-carbonaceous siltstone, fining up to laminated chloritic siltstone (Balfour Subgroup) (Prs).

Parallel–to cross–bedded quartz sandstone with rare quartz–pebble conglomerate and shale (Lagoon River Quartzite) (Pri).

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

ARTHUR METAMORPHIC COMPLEX

Pt: Ptq, Ptg

Micaceous quartzite, schist, phyllite and minor amphibolite (Ptq); Togarise Bay Formation, quartz siltstone and mudstone (Pt) (Fraser Formation); garnetiferous metamorphic equivalents (Ptg).

TYENNAN AND SIMILAR REGIONS

Pts: Pt, Ptp, Ptqg, Ptb

Undifferentiated metasedimentary sequences, with greenschist facies metamorphism (Pt). Dominantly quartzite sequences (Pts).

Dominantly pelitic sequences, mainly phyllite (Ptp).

Garnetiferous pelitic schist (Ptqg).

Dominantly schistose conglomerate (Goat Island Conglomerate and correlates) (Ptb).

SMITHTON – ROCKY CAPE REGION

TULLAH – DIAL RANGE – FOSSEY MOUNTAINS REGION

IGNEOUS ROCKS

JURASSIC

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

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

DEVONIAN – ORDOVICIAN

LOWER DEVONIAN – ORDOVICIAN

Dgr: Dgp, Dgl, Dgs, Dgb, Dgm, Dgn

Undifferentiated granitic rocks (Dg); undifferentiated alkali–feldspar granite/granite/adamellite, I–type (Dgs); S–type (Dgm); dominantly granite, I–type (Dgr); S–type (Dgb); dominantly adamellite/granite, I–type (Dgn); S–type (Dgsm).

Dgn — Dominantly granodiorite/adamellite, I–type (Dgn).

Cdb — Tholeiitic basalt (Mt Tor area; upper Wilmot River) (Cdb).

CCdc — Tholeiitic dolerite (Black Bluff Range) (CCdc).

CAMBRIAN

CAMBRIAN SERIES 3 – FURONGIAN

Cdf: Cdfl, Cdsvf, Cdb, Cds, CDdf, Cdq, Cdgr, Cdb, Cdp, Cdg, Cdc, Cdb, Cdsq

Felsic lavas within Tyndall Group (Cdf).

Felsic lavas within Western Volcano–Sedimentary Sequence (Cdsvf).

Basaltic volcanics and minor intrusives (including Hellyer basalt) (Cdb).

Andesitic lavas, breccias and intrusive rocks (Cds).

Major andesitic to dacitic intrusives, including Beulah Granite and Lobster Creek Intrusives (Cdd).

Felsic to intermediate volcanic rocks (Central Volcanic Complex of Mt Read Volcanics) (Cdv).

Quartz feldspar porphyry (Cdfp).

Granite, (includes Dove Granite) (Cgr).

Dolerite (Mt Charter area; upper Leven River); diorite (Wilmot and Rhona areas) and basalt (Gog Range area) (Cdd).

MT READ VOLCANICS (IN PART) AND ASSOCIATED INTRUSIVES

TYERRENDEUVIAN – CAMBRIAN SERIES 2

Cg — Gabbroic rocks (Cg).

Cbo — Boninitic lavas (Cbo).

Cbt — Low–Ti tholeiitic lavas (Cbt).

Ct — Tonalite and associated rocks (Ct).

Cs: Csd, Csp

Layered peridotite, serpentinite and associated rocks (Cs); dominantly serpentinised layered dunite and harzburgite ("LDH association") (Csd); dominantly layered pyroxenite and dunite ("LPD association") (Csp).

Cvwf — Tholeiitic basalt (within Luina Group and correlates; includes 'Walton Spilite') (Cvwb).

Pzb: Pzv — Tholeiitic basalt (Spinks Creek Volcanics, Bernafai Volcanics and correlates) (Pzb); with picrite (Skipworth Subgroup) (Pzv).

Pzg — Subvolcanic andesitic intrusives (Grimes Intrusive Suite; on King Island) (Pzg).

Pg — Granitic rocks (on King Island) (Pg).

Pzd — Tholeiitic dolerite dykes (Tayatea Dyke Swarm) (Pm).

Pzb — Alkali basalt and dolerite (within Burnie and Oonah Formations; includes Cooee Dolerite) (Pzb).

Pzp — Amphibolite (Pzp).

CRYOGENIAN – EDIACARAN

The geological data for this map were compiled by J.Pemberton B.Sc.(Hons)M.Sc., C.R.Calver B.Sc.(Hons)Ph.D., K.D.Corbett B.Sc. (Hons)Ph.D., J.L.Everard B.Sc.(Hons), B.A.Goscombe B.Sc.(Hons)Ph.D., 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 maps and other sources.

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GDA94 – MGA Zone 55.

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SOURCES
Source information for this map is available as an additional sheet.

LOCATION DIAGRAM

NORTHWEST NORTHEAST SOUTHWEST SOUTHEAST

BASS STRAIT

WARNING: INKS ARE LIGHT SENSITIVE

THIS MAP IS EDITION 2011.1
BASED ON A STATEWIDE DATASET
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