Tasmania
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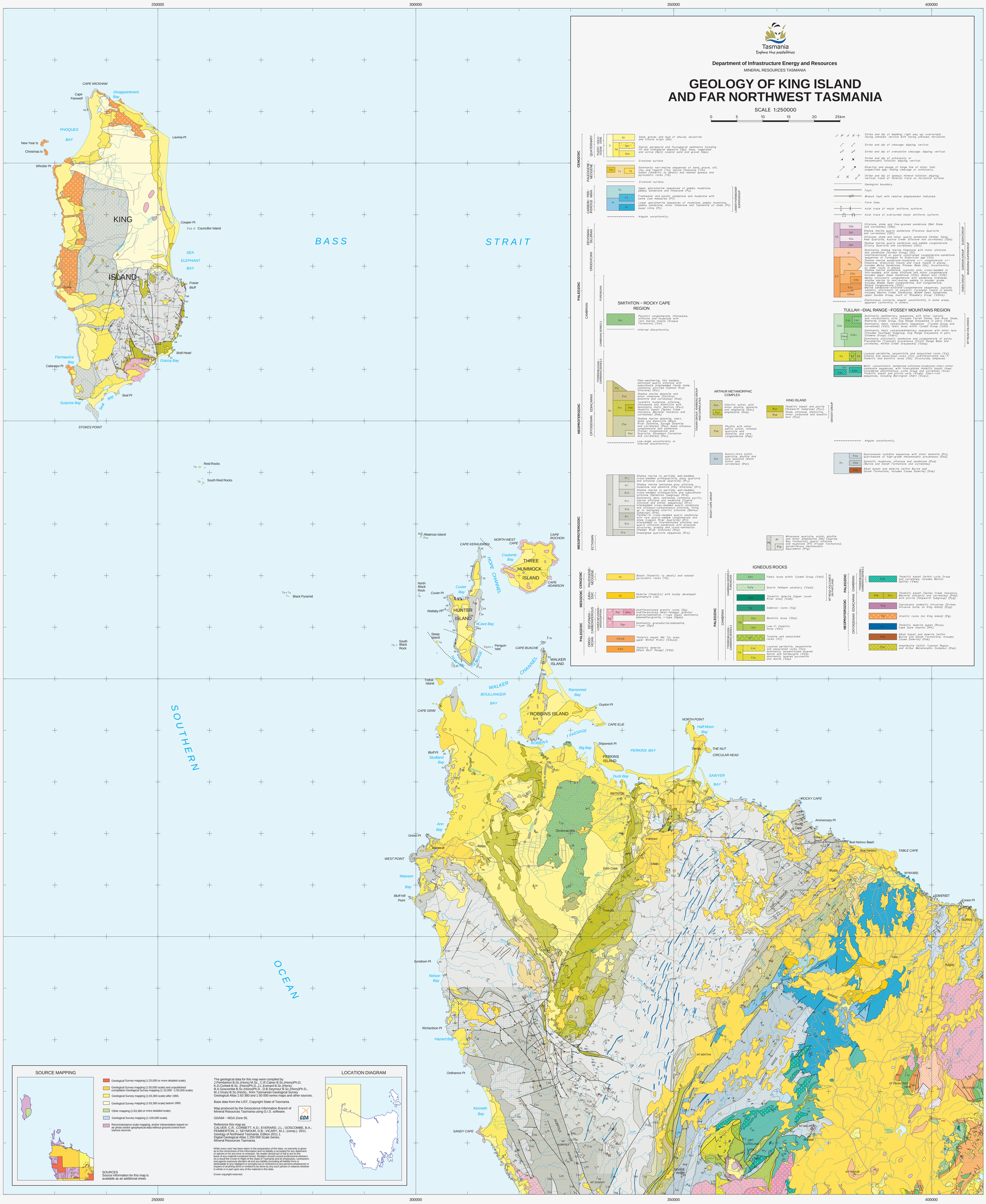
Department of Infrastructure Energy and Resources

MINERAL RESOURCES TASMANIA

GEOLOGY OF KING ISLAND AND FAR NORTHWEST TASMANIA

SCALE 1:250000

0 5 10 15 20 25km



CENOZOIC

QUATERNARY (PLEISTOCENE–HOLOCENE)

- Qh — Sand, gravel, and mud of alluvial, lacustrine and littoral origin (Qh).
- Q: Qpa, Qpg, Qpo — Glacial, periglacial and fluvioglacial sediments including till and interglacial deposits (Qp); talus, vegetated and active (Qpa); coastal sand and gravel (Qpo).

Erosional surface

PALEOGENE–NEOGENE

- Tm, Ts, Tb — Dominantly non-marine sequences of sand, gravel, silt, clay and regolith (Ts); marine limestone (Tm); basalt (tholeiitic to alkalic) and related igneous and pyroclastic rocks (Tb).

Erosional surface.

CARBONIFEROUS–PERMIAN

- Pu — Upper glaciomarine sequences of pebbly mudstone, pebbly sandstone and limestone (Pu).
- Pl — Freshwater and paralic sandstone and mudstone with some coal measures (Pl).
- Pr — Lower glaciomarine sequences of mudstone, pebbly mudstone, pebbly sandstone, minor limestone and Tasmanite oil shale (Pr); basal tillite (Pr).

LOWER PARMEENER SUPERGROUP

Angular unconformity.

PALEOZOIC

DEVONIAN–SILURIAN

- 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 (Crosby Quartzite and correlates) (SDc).

ELDON GROUP

ORDOVICIAN

- Do — Dominantly shallow marine limestone with minor siltstone and sandstone (Ordovician Limestone). Undifferentiated or poorly constrained conglomerate–sandstone sequences of Furongian to Ordovician age (€O).
- Os — Shallow marine sandstone–mudstone +/– conglomerate +/– limestone. Ordovician fossils and trace fossils in places. Includes Ordovician Limestone, Pioneer Beds (Os). Unconformity on older rocks in places.
- €Ob — Shallow marine sandstone, typically pink, cross-bedded to thin-bedded, with some siltstone and minor conglomerate. Includes Upper Owen Sandstone (€Ob). Basalt lava flows, shallow marine to non-marine, pebble to boulder, grade, shallow marine to non-marine, pebble to boulder, grade. Includes Middle Owen Conglomerate, Dial Conglomerate, Upper Dundas Group, much of 'Rosebery Group' (€Dms).
- €Om — Marine sandstone–siltstone–conglomerate sequences, typically tuboiltic, siliciclastic to polymict. Furongian fossils in places. Includes Newton Creek Sandstone, Middle Owen Sandstone, upper Dundas Group, much of 'Rosebery Group' (€Dms).

OWEN GROUP — DORSON GROUP — MURAWAIWA SUPERGROUP

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

CAMBRIAN

SMITHTON – ROCKY CAPE REGION

FURONGIAN

CAMBRIAN SERIES 3

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

Inferred disconformity

TERRENEUVIAN – CAMBRIAN SERIES 2

- Pm — Pale-weathering, thin bedded, laminated quartz siltstone with subordinate interbedded fissile shale, commonly silicified (Salmon River Siltstone) (Pm).
- Pmd — Shallow marine dolomite and minor limestone (Smithton Dolomite and correlates) (Pmd).
- Pm — Turbiditic mudstone, siltstone, sandstone and conglomerate, dominantly mafic detritus (Pm); tholeiitic basalt (Spinks Creek Volcanics, Bernafai Volcanics and correlates) (Pmb).
- Pss — Shallow marine dolomite, chert, shale and dismictite (Black Rock Dolomite, Smithton Dolomite and correlates) (Pss); basal siliceous conglomerate and sandstone (Forest Conglomerate and Quartzite, Donaldson Formation and correlates) (Pss).
- Pmc — Low-angle unconformity or inferred disconformity.

TOGARI GROUP, ARMISTEAD GROUP, MOUNT CAMERON BEDS

ARTHUR METAMORPHIC COMPLEX

- Pat, Pat' — Chloritic schist, with minor phyllite, dolomite and magnesite (Pat); amphibolite (Pat').
- Pap — Phyllite with minor pelitic schist, foliated quartzite and dolomite, and rare conglomerate (Pap).
- Pat — Quartz-mica schist, quartzite, phyllite and graphitic schist (Keith Schist and correlates) (Pat).

KING ISLAND

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

GRASSY GROUP

Angular unconformity.

- Pe: Peq, Ped, Peb — Quartzwacke turbidite sequences with minor dolomite (Peq); quartzwacke of high-grade metamorphic provenance (Peq). Dolomitic mudstone, siltstone and sandstone (Ped) (Burnie and Oonah Formations and correlates). Alkali basalt and dolerite (within Burnie and Oonah Formations, includes Cooee Dolerite) (Peb).

NEOPROTEROZOIC

CRYOGENIAN

EDIACARAN

MESOPROTEROZOIC

ECTASIAN

- Pr: Pr', Prc, Prb, Pri, Prp, Prs — Shallow marine to peritidal, well-bedded, cross-bedded orthoquartzite, glauc quartzite and minor dolomite (Pr'); Shallow marine dominated siltstone, mudstone and dolomite (Prb/ Siltstone) (Pri). Shallow marine to peritidal, well-bedded, cross-bedded orthoquartzite and subordinate siltstone (Darwinian Subgroup) (Prp). Dominantly dark, laminated, commonly pyritic, carbonaceous siltstone (Prc); Siltstone and similar sequences) (Prc); interbedded cross-bedded quartz sandstone and carbonaceous siltstone, fining upwards (Prb); Pyrolite-lo cross-bedded quartz sandstone with rare quartz-pebble conglomerate and minor siltstone (Prs); Siltstone and interbedded to interpenetrated siltstone and quartz siltstone-sandstone with erosional structures, grading and cross-lamination (Pedder River Siltstone) (Prs). Unassigned quartzite sequences (Prs).

RICKOY CAPE GROUP

- Pb: Pf, Pfg — Micaceous quartzite, schist, phyllite and graphitic schist (Pf); (Fraser Bay Formation); quartz siltstone and mudstone (Pf) (Fraser Formation); garnetiferous metamorphic equivalents (Pfg).

IGNEOUS ROCKS

CENOZOIC

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

MESOZOIC

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

PALEOZOIC

DEVONIAN

- Dg: Dgu, Dgm — Undifferentiated granitic rocks (Dg). Undifferentiated alkali-feldspar granite/granite/adamellite, I-type (Dgu); dominantly adamellite/granite, I-type (Dgm).
- Dgn — Dominantly granodiorite/adamellite, I-type (Dgn).

ORDOVICIAN

- €Dcb — Tholeiitic basalt (M) Tor area; upper Wilmot River) (€Dcb).
- €Do — Tholeiitic dolerite (Black Bluff Range) (€Do).

CAMBRIAN

- €Ff — Felsic lavas within Tyndall Group (€Ff).
- €Qfp — Quartz feldspar porphyry (€Qfp).
- €m — Tholeiitic dolerite (Upper Leven River area) (€m).
- €g — Gabbroic rocks (€g).
- €b — Boninitic lavas (€b).
- €t — Low-Ti tholeiitic lavas (€t).
- €c — Tonalite and associated rocks (€).
- €es — Layered peridotite, serpentinite and associated rocks (€s); dominantly serpentinised layered peridotite (€es); (Lake Ada); dominantly layered pyroxenite and dunite (€sp).

TULLAH –DIAL RANGE –FOSSEY MOUNTAINS REGION

- €ds — Dominantly sedimentary sequences, with minor volcanic and volcaniclastic units (includes Forrest Slates, Que River Shale, Radfords Creek Group, Gog Range Greywacke in part) (€ds).
- €dv — Dominantly felsic volcaniclastic sequences (Tyndall Group and correlates) (€dt); felsic lavas within Tyndall Group (€dt).
- €dsv — Dominantly felsic volcanosedimentary sequences with minor lava (includes Southwest Subgroup, Gog Range Greywacke in part, Crimson Creek Beds).
- €dq — Dominantly siliciclastic sandstone and conglomerate of partly Precambrian (Tyennan) provenance (Slight Range Beds and correlates, Animal Creek Greywacke) (€dq).

MT REMARKABLE VOLCANICS (BRYANTS LAND – MT FARQUHARSON)

- €s — Layered peridotite, serpentinite and associated rocks (€s); tholeiitic and boninitic lavas (€b). Structurally emplaced.
- €c — Mafic volcaniclastic sandstone–siltstone–mudstone–chert–minor carbonate sequences, with intercalated tholeiitic basalt flows. Considered allochthonous. Luina Group and correlates (€cw). Tholeiitic basalt and picrite units (€cwp). Chert-rich sequences, including Barrington Chert (€cwc).

NEOPROTEROZOIC

CRYOGENIAN

EDIACARAN

CAMBRIAN

TERRENEUVIAN – CAMBRIAN SERIES 2

- €cw — Tholeiitic basalt (within Luina Group and correlates); includes Mutton Splitts) (€wb).
- €pb, €pyc — Tholeiitic basalt (Spinks Creek Volcanics, Bernafai Volcanics and correlates) (€pb); with picrite (Skipworth Subgroup) (€pyc).
- €ys — Subvolcanic andesitic intrusives (Grimes Intrusive Suite; on King Island) (€ys).
- €g — Granitic rocks (on King Island) (€g).
- €dm — Tholeiitic dolerite dykes (Rocky Cape Dyke Swarm) (€m).
- €eb — Alkali basalt and dolerite (within Burnie and Oonah Formations; includes Cooee Dolerite) (€eb).
- €pp — Amphibolite (within Tyennan Region and Arthur Metamorphic Complex) (€pp).

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.

Form lines.

Axial trace of major antiform; synform.

Axial trace of overturned major antiform; synform.

SOURCE MAPPING

- Geological Survey mapping (1:25,000 or more detailed scale).
- Geological Survey mapping (1:50,000 scale) and unpublished compilation Geological Survey mapping (1:10,000 –1:50,000 scale).
- Geological Survey mapping (1:63,360 scale) after 1965.
- Geological Survey mapping (1:63,360 scale) before 1965.
- Other mapping (1:63,360 or more detailed scale).
- Geological Survey mapping (1:100,000 scale).
- Reconnaissance scale mapping, and/or interpretation based on air photo and/or geophysical data without ground control from various sources.

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

The geological data for this map were compiled by
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GDA94 – MGA Zone 55.

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CALVER, C.R. ; CORBETT, K.D.; EVERARD, J.L.; GOSCOMBE, B.A.; PEMBERTON, J.; SEYMOUR, D.B., VICARY, M.J.; (comp.). 2011. Geology of Northwest Tasmania. Edition 2011.1. Digital Geological Atlas 1:250 000 Scale Series. Mineral Resources Tasmania.

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LOCATION DIAGRAM

WARNING: INKS ARE LIGHT SENSITIVE

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