PHANEROZOIC

CAINOZOIC — QUATERNARY

- **Qa** — Alluvium—unconsolidated clay, silt, sand, and gravel in channels and floodplains

- **Czb** — Black soil—clay and silt, includes swelling clay soil (gilgai) on basalt
- **Czc** — Colluvium and rubble—sand, gravel, conglomerate, and sedimentary breccia forming sheetwash fans and scree deposits
- **Czcv** — Colluvium and alluvium—clay, silt, sand, and gravel as dissected, partly consolidated valley-fill deposits
- **Czk** — Calcrete—sheet carbonate associated with alluvium and colluvium
- **Czn** — Unconsolidated and partly consolidated sandplain deposits
- **Czs** — Colluvium and alluvium—partly consolidated clay, silt, sand, and gravel adjacent to drainage
- **Czsa** — Alluvium and colluvium—dissected sheets of partly consolidated silt and sand; pebble, cobble, and boulder conglomerate

- **q** — Quartz veins, of various ages; youngest generation postdates Devonian
- **fl** — Fluorite-quartz-carbonate veins

PALAEOZOIC — LATE DEVONIAN — FRASNIAN — Cockatoo Group (BONAPARTE BASIN)

- **DC** — Undivided sandstone and conglomerate
- **DCg** — **GALLOPING CREEK FORMATION:** fine- to very coarse-grained feldspathic sandstone and pebble to boulder conglomerate
- **DCk** — **KELLYS KNOB SANDSTONE:** fine- to medium-grained quartz sandstone
- **DCy** — **CYRIL SANDSTONE:** fine- to medium-grained quartz sandstone, pebbly sandstone; minor pebble to boulder conglomerate and siltstone
- **DCr** — **RAGGED RANGE CONGLOMERATE:** pebble to boulder conglomerate, pebbly sandstone, and fine- to very coarse-grained sandstone

PALAEOZOIC — MIDDLE CAMBRIAN — ORDIAN TO BOOMERANGIAN-TEMPLETONIAN — Carlton Group (BONAPARTE BASIN)

- **Ꞓct** — **TARRARA FORMATION:** siltstone; minor sandstone and oncolitic dolomite; local macrofossils

PALAEOZOIC — MIDDLE CAMBRIAN — ORDIAN TO BOOMERANGIAN-TEMPLETONIAN — Goose Hole Group (ORD BASIN)

- **Ꞓg** — Undivided fine- to coarse-grained sandstone, pebbly sandstone, and pebble conglomerate
- **Ꞓge** — **EAGLE HAWK SANDSTONE:** fine-grained, micaceous feldspathic sandstone and limestone
- **Ꞓgp** — **PANTON FORMATION:** siltstone, mudstone; minor feldspathic sandstone and limestone
- **Ꞓgpc** — **Corby Limestone Member:** grey, micritic limestone and chert
- **Ꞓgps** — **Shady Camp Limestone Member:** fossiliferous (oncolitic) limestone
- **Ꞓgl** — **LINNEKAR LIMESTONE:** laminated, micritic limestone, shale, and calcareous shale; local chert, stromatolites, and macrofossils
- **Ꞓgn** — **NELSON SHALE:** purple siltstone and mudstone; minor feldspathic sandstone
- **Ꞓgh** — **HEADLEYS LIMESTONE:** grey, massive to laminated limestone; minor chert and stromatolites locally

Elder Subgroup: Ꞓge, Ꞓgp, Ꞓgpc, Ꞓgps. Negri Subgroup: Ꞓgl, Ꞓgn, Ꞓgh.

PALAEOZOIC — EARLY CAMBRIAN (ORD AND BONAPARTE BASINS)

- **Ꞓa** — **ANTRIM PLATEAU VOLCANICS:** massive or amygdaloidal, locally porphyritic basalt, and basaltic breccia; minor sandstone and chert locally
- **Ꞓac** — **Mount Close Chert Member:** laminated, stromatolitic chert, and chert breccia

PROTEROZOIC

- **d** — Dolerite dyke
- **ge** — Fine- to medium-grained, even-textured biotite granitoid dyke
- **p** — Pegmatite dykes and sheets

Albert Edward Group (WOLFE CREEK BASIN)

- **ᴱLa** — **MOUNT FORSTER SANDSTONE:** fine- to medium-grained quartz sandstone; minor pebbly sandstone, and conglomerate

Duerdin Group (WOLFE CREEK BASIN)

- **ᴱEo** — **RANFORD FORMATION:** thin-bedded siltstone and thin- to thick-bedded quartz sandstone, dolomitic quartz sandstone, and dolomite
- **ᴱEm** — **MOONLIGHT VALLEY TILLITE:** massive, matrix-supported, polymictic pebble to boulder conglomerate, and poorly sorted, massive sandstone; larger clasts in conglomerate are polished and striated locally

c. 610 Ma

VICTORIA RIVER BASIN

- **ᴱh** — **HELICOPTER SILTSTONE:** green and grey, micaceous siltstone, fine- to medium-grained quartz sandstone, and mudstone
- **ᴱf** — **AHERN FORMATION:** fine- to coarse-grained quartz sandstone, pebbly sandstone, conglomerate, and siltstone

c.?800 Ma

c. 815 Ma

- **ᴱlB** — **Bow Hill lamprophyre dykes:** olivine–phlogopite lamprophyre; garnet–phlogopite lamprophyre

*c.*1200 Ma

- **ᴱlA** — **Argyle lamproite pipe:** volcaniclastic olivine lamproite intruded by olivine–phlogopite lamproite dykes

Carr Boyd Group (CARR BOYD BASIN)

- **ᴱCs** — **STONEWALL SANDSTONE:** fine- to coarse-grained quartz sandstone; subordinate micaceous siltstone, mudstone, and pebbly sandstone
- **ᴱCg** — **GLENHILL FORMATION:** micaceous siltstone, fine- to coarse-grained quartz sandstone, and mudstone
- **ᴱCga** — Siltstone, mudstone, and thin- to thick-bedded sandstone
- **ᴱCgs** — Fine- to coarse-grained quartz sandstone
- **ᴱCl** — **LISSADELL FORMATION:** fine- to coarse-grained quartz sandstone; subordinate micaceous siltstone and mudstone
- **ᴱCla** — Siltstone and mudstone; thin- to thick-bedded quartz sandstone
- **ᴱCd** — **GOLDEN GATE SILTSTONE:** siltstone and mudstone; either carbonaceous, chloritic, or micaceous; thin- to medium-bedded ferruginous sandstone, and quartz sandstone
- **ᴱCh** — **HENSMAN SANDSTONE:** fine- to coarse-grained quartz sandstone; heavily silicified

Bastion Group (BASTION BASIN)

- **ᴱBc** — **COCKBURN SANDSTONE:** fine- to coarse-grained quartz sandstone, and pebbly quartz sandstone
- **ᴱBw** — **WYNDHAM SHALE:** green, grey or chocolate siltstone and mudstone; minor fine- to coarse-grained, micaceous quartz sandstone
- **ᴱBm** — **MENDENA FORMATION:** fine- to coarse-grained quartz sandstone, and micaceous sandstone, siltstone, and mudstone; minor carbonate rock; sandstone contains mudstone pebbles locally

- **EcCy** — **Yungul carbonatite:** calcite–apatite–anatase rock with abundant inclusions of sedimentary rock and dolerite

*c.*1790 Ma

- **Ɛdh** — **HART DOLERITE:** dark grey dolerite
- **Ɛdhg** — Pink to grey granophyre

PROTEROZOIC — Kimberley Group (KIMBERLEY BASIN)

*c.*1800 Ma

- **ᴱKp** — **PENTECOST SANDSTONE:** undivided fine- to coarse-grained quartz sandstone and pebbly quartz sandstone
- **ᴱKpu** — Upper unit: medium- to coarse-grained quartz sandstone and pebbly quartz sandstone
- **ᴱKpm** — Middle unit: white, fine- to coarse-grained quartz sandstone, purple fine-grained sandstone, and purple siltstone and shale
- **ᴱKpl** — Lower unit: quartz sandstone and siltstone
- **ᴱKe** — **ELGEE SILTSTONE:** red-brown and grey siltstone and shale; minor quartz sandstone
- **ᴱKet** — **Teronis Member:** stromatolitic dolomite, sandy dolomite, oolitic dolomite, shale, micaceous siltstone, and fine-grained sandstone
- **ᴱKw** — **WARTON SANDSTONE:** white to purple, massive to blocky, quartz sandstone; minor feldspathic sandstone
- **ᴱKc** — **CARSON VOLCANICS:** green to black basalt, amygdaloidal basalt and basaltic volcaniclastic rocks; interbedded quartz sandstone, feldspathic sandstone, laminated siltstone, and mudstone
- **ᴱKl** — **KING LEOPOLD SANDSTONE:** white to pale brown, medium- to coarse-grained quartz sandstone, and pebbly quartz sandstone

REVOLVER CREEK BASIN

- **ᴱr** — **REVOLVER CREEK FORMATION:** fine- to coarse-grained quartz sandstone, lithic quartz sandstone, feldspathic quartz sandstone, and carbonaceous siltstone and mudstone; minor conglomerate
- **ᴱrb** — Dolerite, basalt, and basaltic breccia; minor lithic sandstone, siltstone, and mudstone

RED ROCK BASIN

- **ᴱx** — **TEXAS DOWNS FORMATION:** fine- to coarse-grained lithic quartz sandstone, pebbly sandstone, conglomerate, siltstone, mudstone, basalt, and basaltic breccia
- **ᴱxa** — Mudstone, siltstone, and thin- to thick-bedded quartz sandstone

PROTEROZOIC — Speewah Group (SPEEWAH BASIN)

- **ᴱS** — Undivided silicified quartz sandstone, feldspathic quartz sandstone, and subordinate siltstone and mudstone
- **ᴱSb** — **BEDFORD SANDSTONE:** white to pale brown, well-sorted sandstone
- **ᴱSl** — **LUMAN SILTSTONE:** green and brown siltstone, mudstone and thin-bedded sandstone
- **ᴱSa** — **LANSDOWNE ARKOSE:** thin- to thick-bedded feldspathic quartz sandstone; minor micaceous siltstone and mudstone
- **ᴱSaa** — Mudstone, siltstone, and thin- to thick-bedded feldspathic quartz sandstone
- **ᴱSv** — **VALENTINE SILTSTONE:** siltstone and mudstone; commonly micaceous or chloritic; minor thin-bedded feldspathic quartz sandstone and rhyolitic volcaniclastic sandstone
- **ᴱSt** — **TUNGANARY FORMATION:** quartz sandstone, feldspathic quartz sandstone, and subordinate siltstone and mudstone
- **ᴱSn** — **O'DONNELL FORMATION:** fine- to coarse-grained quartz sandstone and lithic quartz sandstone, pebbly sandstone, chloritic siltstone and mudstone, and granule to pebble conglomerate

*c.*1835 Ma

- **ᴱa** — Undivided layered mafic–ultramafic intrusions; olivine norite, gabbronorite, and minor anorthosite

1835—1805 Ma

PROTEROZOIC — Sally Downs supersuite (Bow River batholith, Lamboo Complex)

- **ᴱgSg** — Undivided granitoid rock
- **ᴱgSkd** — **KEVINS DAM MONZOGRANITE:** medium-grained, even-textured and weakly porphyritic biotite monzogranite
- **ᴱgSmd** — **MABEL DOWNS TONALITE:** medium- to fine-grained, foliated, hornblende–biotite tonalite; extensively recrystallized; abundant flattened inclusions of mafic rock
- **ᴱgSms** — **MAGOTTY SPRINGS MONZOGRANITE:** medium- to coarse-grained, porphyritic biotite monzogranite; medium-grained, even-textured hornblende–biotite granodiorite
- **ᴱgSvv** — **VIOLET VALLEY TONALITE:** fine- to medium-grained, weakly porphyritic biotite granodiorite and biotite–hornblende tonalite; weakly to moderately foliated
- **ᴱgSvm** — Medium-grained, weakly porphyritic biotite granodiorite and biotite–hornblende tonalite; weakly to moderately foliated
- **ᴱgSwy** — **WESLEY YARD MONZOGRANITE:** massive, medium- to coarse-grained, porphyritic biotite monzogranite; minor granodiorite
- **ᴱgSp** — Medium- to coarse-grained, porphyritic monzogranite and syenogranite
- **ᴱgSob** — Biotite-bearing norite, gabbronorite, and minor gabbro
- **ᴱgSog** — Biotite-bearing norite, gabbronorite, and minor gabbro with veins of intermediate hybrid rock; mafic and intermediate hybrid rock cut by abundant veins of coarse-grained porphyritic tonalite and granodiorite

1865—1850 Ma

PROTEROZOIC — Paperbark supersuite (Western zone, Bow River batholith, Lamboo Complex)

- **ᴱgPg** — Undivided granitoid rock
- **ᴱgPby** — **BEEFWOOD YARD GRANITE:** medium- and coarse-grained, porphyritic biotite monzogranite
- **ᴱgPcc** — **CROOKED CREEK GRANITE:** medium-grained, plagioclase-phyric, biotite granodiorite and monzogranite
- **ᴱgPdc** — **DINNER CREEK TONALITE:** fine- to medium-grained, massive or weakly foliated hypersthene–biotite–amphibole tonalite; abundant inclusions of fine-grained biotite–amphibole tonalite; commonly extensively recrystallized
- **ᴱgPgg** — **GORDONS GORGE GRANITE:** massive, coarse-grained, porphyritic biotite(–hornblende) monzogranite and syenogranite with a rapakivi-like texture
- **ᴱgPmt** — **MATCHBOX GRANITE:** medium- and coarse-grained, porphyritic biotite monzogranite and syenogranite
- **ᴱgPmn** — **MOUNT NYULASY GRANITE:** massive, coarse-grained, porphyritic biotite monzogranite and syenogranite with a rapakivi-like texture; subordinate medium- to coarse-grained, even-textured monzogranite
- **ᴱgPnc** — **NEIL CREEK MONZOGRANITE:** fine- to medium-grained, weakly porphyritic monzogranite
- **ᴱgPe** — Medium-grained, even-textured biotite monzogranite
- **ᴱgPp** — Medium- to coarse-grained, porphyritic biotite granitoid
- **ᴱgPob** — Massive, fine-grained biotite gabbro
- **ᴱgPog** — Biotite-bearing gabbro with veins of intermediate hybrid rock; mafic and hybrid rock cut by veins of coarse-grained granitoid

1865—1850 Ma

PROTEROZOIC — Western zone

- **ᴱpg** — **GREENVALE PORPHYRY:** massive, dark grey quartz–feldspar micromonzogranite porphyry; medium to coarse phenocrysts of quartz, K-feldspar, and plagioclase
- **ᴱpc** — **CASTLEREAGH HILL PORPHYRY:** dark grey, massive, fine-grained feldspar microgranodiorite porphyry; medium phenocrysts of plagioclase; commonly strongly recrystallized

1865—1850 Ma

- **ᴱw** — **WHITEWATER VOLCANICS:** thick-bedded, massive, fine- to medium-grained quartz–feldspar rhyolite to dacite porphyry and welded ignimbrite; minor agglomerate, lapilli tuff, and volcaniclastic sedimentary rocks
- **ᴱd** — Fine- to medium-grained metadolerite

*c.*1870 Ma

- **ᴱm** — **MARBOO FORMATION:** low-grade, turbiditic metasandstone and quartz–plagioclase–muscovite–biotite phyllite; quartz–muscovite–biotite(–cordierite) hornfels adjacent to granitoid intrusions
- **ᴱmh** — Quartz–K-feldspar–plagioclase–muscovite–biotite–cordierite–andalusite hornfels and hornfelsic schollen (raft) migmatite

PROTEROZOIC — Tickalara Metamorphics (Central zone, Lamboo Complex)

- **ᴱmT** — Undivided metamorphic rocks
- **ᴱmTh** — Quartz–K-feldspar–plagioclase–biotite–cordierite–andalusite(–muscovite) hornfels and hornfelsic schollen (raft) migmatite

*c.*1850 Ma

- **ᴱmTgd** — **DOUGALLS TONALITE:** foliated and metamorphosed hypersthene–hornblende–biotite tonalite; abundant pyroxene amphibolite inclusions, and inclusions of country rock
- **ᴱmTgk** — **CORKWOOD TONALITE:** foliated and metamorphosed biotite(–hornblende) tonalite and granodiorite; locally garnet-bearing

- **ᴱmToa** — Amphibolite; relict gabbroic textures
- **ᴱmTon** — Clinopyroxene–orthopyroxene–plagioclase–quartz(–hornblende–biotite) mafic granulite; local relict gabbroic textures

*c.*1865 Ma

- **ᴱmTa** — Amphibolite; interlayered with pelite and psammite, banded iron-formation, calc-silicate rock, and marble
- **ᴱmTpc** — Calc-silicate rock and marble; minor banded iron-formation, quartzite, and amphibolite
- **ᴱmTpn** — Biotite–plagioclase–quartz(–K-feldspar–sillimanite–garnet–cordierite–spinel) migmatitic pelitic gneiss; numerous layers, pods, and angular to rounded schollen (rafts) of mafic granulite, psammitic gneiss, and calc-silicate rock; intruded by discontinuous syn- to post-metamorphic mafic to intermediate dykes