



QUATERNARY
CENOZOIC
PALAEOZOIC
PROTEROZOIC

ORD. BASIN
WOLF CREEK BASIN
VICTORIA RIVER BASIN
OSMO BASIN
KIMBERLEY BASIN
TEXAS DOWNS BASIN
RED ROCK BASIN
SPEERWAH BASIN

Qa Alluvium—unconsolidated silt, sand, and gravel in channels and floodplains
Qc Colluvium—unconsolidated rock fragments in soil; includes scree deposits
Czb Black soil—clay and silt; includes swelling clay (gila) on basalt
Czc Colluvium and rubble—sand, gravel, conglomerate, and sedimentary breccia forming sheetwash fans and scree deposits
Czv Colluvium and alluvium—clay, silt, sand, and gravel as dissected, partly consolidated valley-fill deposits
Czk Calcrete—sheet carbonate associated with alluvium and colluvium
Czl Lignite
Czn Unconsolidated and partly consolidated sandplain deposits
Czs Alluvium and colluvium—partly consolidated clay, silt, sand, and gravel; adjacent to drainage; local calcrete

Quartz veins, of various ages; youngest generation postdates Devonian

FRASNIAN
Mehany Group
Elder Subgroup
Goose Hole Group
Negri Subgroup

MIDDLE CAMBRIAN
ORDNIAN TO BOOMERANGIAN

EARLY CAMBRIAN

Undivided Albert Edward Group: sandstone, siltstone, mudstone, dolomite, and conglomerate (section only)
NYULESS SANDSTONE: quartz sandstone and lithic sandstone; minor siltstone and conglomerate
TIMPERLEY SHALE: grey-green mudstone and siltstone; minor sandstone
BOONAL DOLOMITE: yellow or grey laminated dolomite, dolerite, and argillite
ELVIRE FORMATION: thin-bedded siltstone and mudstone; minor quartz sandstone
MOUNT FORSTER SANDSTONE: fine- to medium-grained quartz sandstone; minor pebbly sandstone and conglomerate

Albert Edward Group

DAURIN GROUP
RANFORD FORMATION: thin-bedded siltstone and thin- to thick-bedded quartz sandstone, dolomitic quartz sandstone, and dolomite
Johnny Cake Shale Member: green to reddish purple siltstone, locally micaceous; minor thin-bedded, fine-grained quartz sandstone and mudstone
Jarard Sandstone Member: thin- to thick-bedded, fine- to medium-grained, dolomitic sandstone and quartz sandstone, and siltstone and mudstone
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
FRANK RIVER SANDSTONE: poorly sorted lithic sandstone and dolomitic sandstone, pebble to cobble sandstone, conglomerate and siltstone; minor thin-bedded dolomite
FARGOO TILLITE: massive, matrix-supported, polymictic pebble to boulder conglomerate and poorly sorted, massive sandstone; larger clasts in conglomerate are polished and striated locally
Dolomitic conglomerate

RUBY PLAINS GROUP
Undivided Ruby Plains Group: sandstone, dolomite, siltstone, and conglomerate (section only)
MOUNT KINAHAN SANDSTONE: quartz sandstone; minor conglomerate; includes minor **ELLIOT RANGE DOLOMITE**

HELICOPTER SILTSTONE: green and grey micaceous siltstone, fine- to medium-grained quartz sandstone, and mudstone
Thin- to thick-bedded, fine- to medium-grained quartz sandstone, and siltstone and mudstone
AHERN FORMATION: fine- to coarse-grained quartz sandstone, minor pebbly sandstone, conglomerate, and siltstone
WADE CREEK FORMATION: fine- to coarse-grained quartz sandstone, lithic quartz sandstone, pebbly sandstone, conglomerate, siltstone, and mudstone
Mount John Member: green-grey siltstone, mudstone, and fine- to coarse-grained sandstone
Siltstone and thin-bedded sandstone
Chert breccia; angular to rounded chert fragments in a ferruginous chert-sandstone matrix

BUNGLE BUNGLE DOLOMITE: thin- to thick-bedded dolerite, dololite, and dolerite; commonly stromatolitic; dolomitic quartz sandstone, siltstone, and stromatolitic chert
Thin- to medium-bedded, fine- to medium-grained quartz sandstone
Chert breccia; angular fragments of laminated and stromatolitic chert in a silicified sandy matrix; commonly ferruginous; quartz sandstone locally
MOUNT PARKER FORMATION: fine- to coarse-grained quartz sandstone, pebbly sandstone, and conglomerate
Green-grey mudstone, siltstone, and thin-bedded quartz sandstone
Poorly sorted, oligomictic pebble to boulder conglomerate, pebbly sandstone, and coarse-grained sandstone; sandstone clasts

Kimberley Group
HART DOLERITE: dark grey dolerite
Pink to grey granophyre
KING LEOPOLD SANDSTONE: white to pale brown, medium- to coarse-grained quartz sandstone and pebbly quartz sandstone
TEXAS DOWNS FORMATION: fine- to coarse-grained quartz sandstone, pebbly sandstone, conglomerate, siltstone, mudstone, basalt flows, and basaltic breccia
Massive to amygdaloidal basalt flows and basaltic breccia, and dolerite; minor sandstone, siltstone, and mudstone
RED ROCK FORMATION: fine- to coarse-grained lithic quartz sandstone, pink feldspathic quartz sandstone, pebbly sandstone, conglomerate, siltstone, mudstone, basalt flows, and basaltic breccia
Carbonate rock
Massive to amygdaloidal basalt flows and basaltic breccia, and dolerite; minor lithic sandstone, siltstone, and mudstone
Mudstone, siltstone, thin- to thick-bedded lithic or feldspathic quartz sandstone; massive to amygdaloidal basalt flows locally

Copperhead Abilite Carbonatite Complex: abilite, abilit-carbonate lenite, carbonate veins, and carbonatite breccia
Dolite porphyry; fine-grained, massive or flow-banded

BEDFORD SANDSTONE: white to pale brown, well-sorted quartz sandstone
LUMAN SILTSTONE: green and brown siltstone and grey shale
LANDSDOWNE ARKOSE: purple-brown, grey, and white feldspathic sandstone and arkose; minor quartz sandstone and micaceous siltstone
VALENTINE SILTSTONE: grey and green, flaggy, laminated siltstone; minor rhyolitic ashstone and tuff
TUNGANARY FORMATION: buff and grey feldspathic sandstone and quartz sandstone; brown and green siltstone and phyllite; minor chert
ODONNELL FORMATION: grey, white, and purple-brown granule sandstone and coarse-grained quartz sandstone, and laminated siltstone; minor arkose and pebble conglomerate

g Strongly porphyritic, tonalite to monzogranite dyke; coarse phenocrysts of plagioclase and K-feldspar
ge Fine- to medium-grained, even-textured biotite granite dyke

Salby Downs supersuite
Ea Undivided mafic-ultramafic layered intrusive rock
Eat Massive troctolite, olivine gabbro, and olivine gabbro
Eap Peridotite

Egsg Undivided granitoid rock
Egsc **CORRARA GRANITE:** medium-grained, even-textured biotite-hornblende tonalite
Egsh **McHALE GRANODIORITE:** medium-grained, even-textured biotite-hornblende tonalite and biotite granodiorite; extensive magmatic brecciation and associated alteration
Egsk **KEVINS DAM MONZOGRANITE:** medium-grained, even-textured and weakly porphyritic biotite monzogranite
Egsl **KOONDOOL MONZOGRANITE:** foliated to massive, medium- to coarse-grained biotite monzogranite
Egsm **MABEL DOWNS TONALITE:** medium- to fine-grained, foliated, hornblende-biotite tonalite; extensively recrystallized; abundant flattened inclusions of mafic rock
Egss **MAGOTTY SPRINGS MONZOGRANITE:** medium- to coarse-grained, porphyritic biotite monzogranite; medium-grained, even-textured hornblende-biotite granodiorite
Egsb **SHEPHERDS BORE GRANITE:** weakly porphyritic biotite monzogranite and syenogranite
Egsd **SALLY DOWNS TONALITE:** medium-grained, even-textured biotite-hornblende tonalite; minor biotite-bearing quartz diorite and biotite leucogranite
Egsw **VIOLET VALLEY TONALITE:** fine- to medium-grained, weakly porphyritic biotite granodiorite and biotite-hornblende tonalite; massive to moderately foliated
Egse Medium-grained, even-textured biotite monzogranite
Egsp Medium- to coarse-grained, porphyritic biotite monzogranite and granodiorite
Egso Biotite-bearing norite, olivine gabbro, gabbro, and minor gabbro
Egsoa Biotite-bearing norite, olivine gabbro, gabbro, 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
Egsoe **WILD DOG CREEK GABBRO:** magnetite gabbro and magnetite-quartz gabbro with veins of biotite diorite; mafic rock and diorite cut by veins of biotite tonalite

McIntosh, Aranda, and Spring Creek intrusions
Eama Leucogabbro, leucogabbro, anorthosite, and minor troctolite; rhythmic cycles
Eamg Gabbro, gabbro, olivine gabbro, olivine gabbro, magnetite gabbro, magnetite gabbro, and magnetite-olivine gabbro; rhythmic cycles
Eamt Troctolite, olivine gabbro, olivine leucogabbro, and olivine gabbro; rhythmic cycles
Eamp Peridotite and troctolite

Paperbark supersuite
Egfg Undivided granitoid rock
Egfa **AIRFIELD GRANODIORITE:** medium- to coarse-grained, porphyritic biotite granodiorite and monzogranite
Egfm **MUSSEL CREEK GRANITE:** medium- to fine-grained, weakly porphyritic biotite monzogranite
Egfp **PANDANUS YARD MONZOGRANITE:** medium-grained, even-textured or weakly porphyritic biotite monzogranite
Egfs **PAPERBARK GRANITE:** medium- to coarse-grained, rapakivi-like granite, medium- to fine-grained biotite-hornblende monzogranite and granodiorite; locally rich in inclusions of mafic rock
Egfsa **SANDY DAM MONZOGRANITE:** foliated, medium- to coarse-grained biotite monzogranite; minor biotite granodiorite
Egfsm Fine- to medium-grained, even-textured granodiorite and tonalite with small clots of biotite, and hornblende granodiorite
Egpsc **SURVEY CREEK MONZOGRANITE:** medium- to coarse-grained, porphyritic biotite-hornblende monzogranite
Egft **TOGO MONZOGRANITE:** moderately to strongly foliated, medium- to coarse-grained, porphyritic biotite monzogranite and minor granodiorite
Egfu **TOP WATER TONALITE:** medium-grained, quartz-phyric biotite tonalite and granodiorite; metasedimentary rock inclusions are abundant near contacts with MARBOO FORMATION
Egfv **TUMAGEE GRANITE:** medium-grained, even-textured or weakly porphyritic biotite monzogranite and granodiorite; minor tonalite
Egfw Medium-grained, even-textured biotite granitoid rock
Egfp Medium- to coarse-grained, porphyritic biotite granitoid rock
Egfpw Rapakivi-like granite; coarse-grained, foliated, biotite-bearing
Egfpv Net vein complex; abundant granitoid veins in mafic igneous rock; numerous rounded to angular inclusions of mafic igneous rock in granitoid rock
Egfpb Biotite-bearing norite, gabbro, and minor gabbro
Egfpog Biotite-bearing norite, gabbro, 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
Egfto **TOBY GABBRO:** fine-grained, subophitic biotite- and quartz-bearing gabbro and gabbro

Springvale, Wilgee, and Foul Creek intrusions
Eesa Leucogabbro, anorthosite, and minor troctolite, olivine gabbro and chromite layers; rhythmic cycles
Eesg Olivine gabbro, olivine gabbro, troctolite, gabbro, and gabbro; rhythmic cycles
Eeat Troctolite, leucogabbro, and gabbro; minor chromite layers; rhythmic cycles
Eesop Peridotite and troctolite

Greenvale and Castleberg Hill porphyry
Eepa **GREENVALE PORPHYRY:** massive, dark grey quartz-feldspar porphyry; medium to coarse phenocrysts of quartz, K-feldspar, and plagioclase
Eepc **CASTLEREAGH HILL PORPHYRY:** massive, fine-grained feldspar porphyry, fine phenocrysts of plagioclase and K-feldspar

Whitewater Volcanics
Eew **WHITWATER VOLCANICS:** thick-bedded, massive, fine- to medium-grained quartz-feldspar rhyolite to dacite porphyry and welded ignimbrite; minor agglomerate, lapilli tuff, and volcanoclastic sedimentary rock

Juries Bore Granite
Eeg **JURIES BORE GRANITE:** fine- to medium-grained, biotite-cordierite-sillimanite-bearing granodiorite and monzogranite with abundant migmatitic metasedimentary inclusions

Marboo Formation
Emm **MARBOO FORMATION:** Quartz-K-feldspar-plagioclase-biotite-cordierite-andalusite-muscovite-garnet-sillimanite-spinel) granofels and hornfels, and hornfelsic schollen (raft) migmatite

Salby Malay intrusions
Eayg Olivine gabbro, olivine gabbro, gabbro, troctolite, leucogabbro, leucogabbro, and anorthosite; weakly layered to rhythmic cycles
Eayp Peridotite, dunite, wehrlite, harzburgite, and olivine gabbro

Salby
Eaf Fine-grained, schistose to massive, hornblende-bearing rhyolite to dacite sheet-like intrusions; flow-banded at margins

Koonie Park Formation
Ee Metamorphosed felsic volcanic and volcanoclastic rocks
Eef Metamorphosed basaltic volcanic and volcanoclastic rocks
Eeb Metamorphosed chert, banded, and locally iron-rich
Eek Metamorphosed carbonate and calc-silicate rocks
Eeh Hornfelsed metasedimentary rock, locally migmatitic
Eehx Hornfelsed metasedimentary rock, intimately veined by granitoid and gabbro

Winnama Formation
Ew Metamorphosed (low- to medium-grade) greywacke, lithic sandstone, siltstone, mudstone, basalt, dolerite, and minor carbonate rock
Ewc Metamorphosed carbonate rock, and calcareous siltstone and sandstone

Panton intrusions
Eoag Metamorphosed and locally foliated anorthosite, leucogabbro, leucogabbro, gabbro, melagabbro, ferrogabbro and magnetite gabbro, gabbro, and norite; minor peridotite with chromite layers; rhythmic cycles
Eoap Dunite, wehrlite, ilmenite, peridotite, and minor harzburgite; rhythmic cycles; chromite layers; metamorphosed

Emt Strongly sheared mylonitic rocks
Emtsa Quartz-K-feldspar-plagioclase-biotite-cordierite-andalusite-muscovite) hornfels and hornfelsic schollen (raft) migmatite
Emtgs Strongly sheared granitoid rocks; mylonitic

Emtg Undivided, foliated and metamorphosed granitoid rock
Emtd **DOUGALLS TONALITE:** foliated and metamorphosed hypersthene-hornblende-biotite tonalite; abundant clinopyroxene amphibole inclusions, and inclusions of country rock
Emtgf **DEAD FINISH TONALITE:** metamorphosed hornblende-biotite-epidote tonalite; relict orthopyroxene and clinopyroxene may be present; inclusions of metadiorite and amphibolite; large inclusions of amphibolite are intimately veined by metatonalite and metadiorite
Emtgg **CORKWOOD TONALITE:** foliated and metamorphosed biotite-hornblende tonalite and granodiorite; locally garnet-bearing
Emtgi **FLETCHER CREEK MONZOGRANITE:** foliated and metamorphosed leucocratic biotite-muscovite-garnet-magnetite monzogranite; rounded to angular inclusions of amphibolite and country rock
Emtgm **MONKEY YARD TONALITE:** foliated and metamorphosed hornblende-biotite-epidote tonalite; inclusions of epidote amphibolite
Emtgy **BLACK DUCK TONALITE:** foliated and metamorphosed leucocratic biotite-muscovite-epidote tonalite to granodiorite; inclusions of epidote amphibolite
Emtgn Quartz-K-feldspar-plagioclase-biotite-sillimanite-andalusite-cordierite) felsic gneiss
Emtod Orthopyroxene-clinopyroxene-hornblende-plagioclase-biotite-quartz diorite to gabbroic granulite
Emtog Metamorphosed (hypersthene-hornblende-biotite diorite and amphibolite) intimately veined by metatonalite and metarhyolite

Emtgr **ROSE BORE GRANITE:** foliated biotite-muscovite syenogranite; migmatitic and sillimanite-bearing in high-grade metamorphic zones

Emto Amphibolite; includes garnet or clinopyroxene; relict primary layering and gabbroic textures
Emton Clinopyroxene-orthopyroxene-plagioclase-quartz-hornblende-biotite) mafic granulite; local relict gabbroic textures
Emtoo Norton intrusion: clinopyroxene-orthopyroxene-magnetite-plagioclase-quartz-hornblende-biotite) mafic granulite; metamorphosed gabbro
Emtu Ultramafic schist

Emth Migmatitic pelitic gneiss; interlayered with mafic granulite
Emta Amphibolite; includes epidote, garnet, or clinopyroxene; local pillows and fragmental volcanic textures with interstitial carbonate; interlayered with medium- to high-grade pelite, psammite, calc-silicate rock, and marble
Emtpa Interlayered pelite and psammite, with banded iron-formation, calc-silicate rock, and marble; minor amphibolite; includes crenulated biotite-muscovite-andalusite-quartz and garnet-staurolite-biotite-muscovite-quartz schist
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, psammite gneiss, and calc-silicate rock; may be retrogressed to muscovite-sillimanite-biotite-quartz-andalusite-garnet-K-feldspar-plagioclase) assemblages; intruded by discontinuous syn- to post-metamorphic mafic to intermediate dykes
Emtpi Interlayered pelite and psammite, with banded iron-formation, calc-silicate rock, and marble; minor amphibolite; includes sillimanite-garnet-staurolite-biotite-plagioclase-quartz schist, sillimanite-biotite-muscovite-quartz-staurolite-hyalite-garnet) schist, and sillimanite-biotite-muscovite-quartz schist
Emti Banded iron-formation, ferruginous chert, and ferruginous pelite and psammite

Ez **MILBA FORMATION:** metamorphosed (low-grade) interlayered mudstone, siltstone, sandstone, and carbonate, calc-silicate, and basaltic volcanic and volcanoclastic rocks
Ezc Metamorphosed carbonate rock
Ezi Banded iron-formation and ferruginous chert
Ezs Metamorphosed mudstone, siltstone, and sandstone

Woodward Dolerite
Edw **WOODWARD DOLERITE:** metamorphosed medium- to coarse-grained dolerite

Halls Creek Group
Eho **OLYMPHO FORMATION:** metamorphosed (low- to medium-grade) thin- to very thick-bedded, fine- to coarse-grained turbiditic lithic sandstone, greywacke, quartz wacke, and arkose sandstone, and siltstone and mudstone; minor pebbly sandstone
Ehoc Grey dolomite, commonly jaspilitic; metamorphosed and recrystallized
Moude Heedley Member: metamorphosed andesitic to trachytic volcanic and volcanoclastic rocks with carbonate-rich matrix; ferruginous chert
Ehov Metamorphosed massive felsic lava flows and lava domes
BISCAY FORMATION: metamorphosed (low- to medium-grade) basaltic volcanic rock and sedimentary rock; minor metadiorite sills
Ehvs Metamorphosed basaltic volcanic and volcanoclastic rocks; minor pelite and metadiorite, and carbonate rock and chert lenses
Ehvt Metamorphosed interbedded mudstone, siltstone, and sandstone

Salby River batholith
Bow River batholith
Western zone
Central zone
Eastern zone