PHANEROZOIC

CENOZOIC

Unassigned

C | Cf | W | Wf | Wk | A | Ad | Af | S

Colluvial units

C	Quartz and rock fragments in a silt and sand matrix; includes ferruginous deposits
Cf	Ferruginous rubble and scree

Sheetwash units

W	Sandy and clayey distal sheetwash and slope deposits; no clearly defined drainage
Wf	Predominantly iron rich sand and silt, derived from relict ferruginous deposits
Wk	Distal sheetwash with calcrete cutans and carbonate cement

Alluvial units

A	Silt, sand, and gravel in drainage channels and adjacent to floodplains; includes ferruginous deposits
Ad	Unconsolidated, fine-grained deposits in alluvial drainage depressions, claypans, perennial lakes, and swamps; low-lying areas with internal drainage; typically thickly vegetated
Af	Unconsolidated, fine-grained deposits on floodplains

Sandplain unit

S	Quartz sand of mixed origin; includes residual and eolian sands

QUATERNARY

C1 | C1c | C1cb | C1q | C1z | C1tss | A1 | A1cb

Colluvial units

C1	Quartz and rock fragments in an unconsolidated silt and sand matrix; includes ferruginous deposits
C1c	Clay, quartz sand, and deeply weathered rock fragments; reworked saprolite and saprock
C1cb	Swelling clay (gilgai) and rock fragments mostly developed over dolerite
C1q	Quartz fragments in an unconsolidated silt and sand matrix, derived from quartz veins and quartzose rocks
C1z	Siliceous fragments in an unconsolidated silt and sand matrix
C1tss	Sandstone fragments in a silt and sand matrix; derived from sandstone

Alluvial units

A1	Unconsolidated silt, sand, and gravel in active drainage channels and floodplains; includes ferruginous deposits
A1cb	Swelling clay (gilgai) developed on alluvial flats

C2 | A2

Colluvial unit

C2	Quartz and rock fragments in a partly consolidated silt and sand matrix

Alluvial unit

A2	Partly consolidated silt, sand, and gravel; partly dissected by present-day drainage

C3 | A3 | A3ti

Colluvial unit

C3	Quartz and rock fragments in a weakly cemented and compacted silt and sand matrix; deeply dissected valley-fill deposits

Alluvial units

A3	Weakly cemented and compacted silt, sand, and gravel; deeply dissected by present-day drainage
A3ti	Sand and gravel with ferruginous cement; deeply dissected by present-day drainage

Rf | Rk | Rl | Rz

Residual or relict units

Rf	Ferruginous deposits, including lateritic, ferruginous, and manganiferous duricrust
Rk	Calcrete, developed in and adjacent to alluvial channels; carbonate and vuggy opaline silica; dissected by major present-day drainage
Rl	Saprolite and saprock of uncertain protolith
Rz	Silcrete and brecciated siliceous caprock

PROTEROZOIC

zq — Quartz veins; various ages

NEOPROTEROZOIC

Mulka Tectonic Event (*c.* 570 Ma)

c. 755 Ma[1] — Mundine Well Dolerite Suite

ᴾMW-od — Dolerite dykes, sills and small intrusions with locally abundant xenoliths and potassic alteration of wallrocks; includes minor quartz diorite, syenite, tonalite, and biotite monzogranite; dashed where interpreted from aeromagnetic data

Edmundian Orogeny (1030–950 Ma[2])

PALEOPROTEROZOIC–MESOPROTEROZOIC

Bangemall Supergroup

Collier Group — COLLIER BASIN

ᴾMCb-sl — **BACKDOOR FORMATION:** siltstone, mudstone, and thin- to thick-bedded sandstone; minor chert and dolostone

c. 1465 Ma — ᴾnr-od — **NARIMBUNNA DOLERITE:** dolerite and gabbro sills intruded into **Edmund Group**

Edmund Group — EDMUND BASIN

ᴾMEc-st — **COODARDOO FORMATION:** thin- to very thick-bedded lithic quartz sandstone; minor siltstone and mudstone

ᴾMElc-sf — **Curran Member:** siltstone and fine- to coarse-grained sandstone; locally intruded by dolerite sills; has gradational contacts with underlying parts of the **ULLAWARRA FORMATION** and overlying **COODARDOO FORMATION**

ᴾMEl-sf — Siltstone and thin- to thick-bedded sandstone

ᴾMEl-sl — **ULLAWARRA FORMATION:** siltstone; subordinate fine-grained sandstone, dolostone, and chert; intruded by numerous dolerite sills

ᴾMEv-kd — **DEVIL CREEK FORMATION:** laminated dolostone and dolomitic siltstone; local thick-bedded dolorudite

ᴾMEv-sl — Siltstone

ᴾMEd-cl — **DISCOVERY FORMATION:** massive or laminated chert, silicified mudstone, and siltstone; local silicified sandstone and conglomerate

ᴾMEd-sl — Siltstone

ᴾMEk-sf — **KIANGI CREEK FORMATION:** siltstone, mudstone, and thin- to very thick-bedded quartz sandstone; minor dolostone and conglomerate

ᴾMEk-st — Medium- to very thick-bedded quartz sandstone and siltstone

ᴾMEk-kd — Dolostone, siltstone, and sandstone

ᴾMEk-sl — Siltstone; minor fine-grained sandstone

ᴾMEb-sl — **BLUE BILLY FORMATION:** siltstone and mudstone; minor thin- to thick-bedded sandstone; locally sulfidic

ᴾMEi-kd — **IRREGULLY FORMATION:** stromatolitic and non-stromatolitic dolostone, dolomitic siltstone, quartz sandstone, and conglomerate

ᴾMEi-st — Sandstone, conglomerate, siltstone, and dolostone

ᴾMEi-sl — Siltstone, sandstone, and dolostone

< 1620 Ma — ᴾMEy-st — **YILGATHERRA FORMATION:** sandstone; subordinate siltstone, conglomerate, and dolostone (section only)

MOUNT AUGUSTUS BASIN

ᴾau-sp — **MOUNT AUGUSTUS SANDSTONE:** sandstone, pebbly sandstone, and conglomerate; minor siltstone

ᴾau-sc — Conglomerate, pebbly sandstone, and sandstone

Mangaroon Orogeny (1680–1620 Ma)

GASCOYNE COMPLEX

1680–1620 Ma[2] — Durlacher Supersuite

ᴾDUdi-grpv | ᴾDUpi-gmw

ᴾDUdi-grpv	**DINGO CREEK GRANITE:** porphyritic biotite–muscovite monzogranite to syenogranite; fine- to medium-grained with thin, tabular K-feldspar phenocrysts defining a trachytic texture
ᴾDUpi-gmw	**PIMBYANA GRANITE:** massive, medium-grained, megacrystic and porphyritic biotite(–muscovite) monzogranite; tabular megacrysts of K-feldspar up to 7 cm long

c. 1680 Ma[2] — Pooranoo Metamorphics, Mount James Subgroup

ᴾPOs-mtqs — **SPRING CAMP FORMATION:** quartzite and quartz–muscovite schist; foliated; quartz metasandstone, feldspathic metasandstone, and quartz-lithic metasandstone; locally ripple marked and cross-bedded

ᴾPOb-mlpc — **BIDDENEW FORMATION:** phyllite; chlorite-rich with magnetite porphyroblasts

Capricorn Orogeny (1830–1780 Ma)

1830–1780 Ma[3] — Moorarie Supersuite

ᴾMO-gmp | ᴾMO-gmpi | ᴾMO-gmeb | ᴾMO-gma | ᴾMO-mgts | ᴾMO-mgml | ᴾMO-xmg-m

ᴾMO-gmp	Massive, medium-grained, porphyritic biotite monzogranite; round phenocrysts of K-feldspar up to 5 cm in diameter; minor fine- to medium-grained, sparsely porphyritic biotite monzogranite
ᴾMO-gmpi	Medium- to coarse-grained mesocratic biotite monzogranite; equigranular to porphyritic; abundant round inclusions of mesocratic microgranite
ᴾMO-gmeb	Massive, equigranular to sparsely porphyritic biotite monzogranite; medium- and coarse-grained; minor muscovite in places; includes some granodiorite and minor leucocratic tonalite
ᴾMO-gma	Pink, fine-grained equigranular to seriate biotite monzogranite
ᴾMO-mgts	Mesocratic, equigranular to sparsely porphyritic biotite metatonalite and quartz metadiorite; medium- to coarse-grained; schistose
ᴾMO-mgml	Leucocratic, equigranular muscovite(–biotite) metamonzogranite; fine- to medium-grained; weakly foliated
ᴾMO-xmg-m	Mesocratic biotite metagranodiorite to metamonzogranite and pale-grey, layered biotite(–muscovite) metamonzogranite; commonly schistose; includes rafts of pelitic to psammitic schist, amphibolite, calc–silicate rock, and quartzite

c. 1840 Ma[4] — Morrissey Metamorphics

ᴾMR-mhs | ᴾMR-mts

ᴾMR-mhs	Pelitic and psammitic schist; quartz–biotite–muscovite–feldspar schist, quartz–sericite–biotite schist, quartz–sericite–chlorite schist; minor metasandstone and granule metaconglomerate
ᴾMR-mts	Psammitic schist; quartz–chlorite–muscovite schist