CENOZOIC — PHANEROZOIC — QUATERNARY — NEOGENE

W | Wt | Wc | Wf | Wk | Wq | Wz | A | Aa | Ai

Lp | Er | Es | Et | Sp

Sheetwash units, age undivided or unassigned

W	Sandy and clayey distal sheetwash and slope deposits; no clearly defined drainage
Wt	Silt and sand; surface characterized by shallow depressions aligned perpendicular to slope; supports banded mosaic vegetation ('tiger bush')
Wc	Clay, silt, and sand from saprolite and saprock
Wf	Low-gradient deposits of ferruginous sand, silt, and gravel
Wk	Distal sheetwash with calcrete cutans and carbonate cement
Wq	Predominantly quartz-rich silt, sand, and gravel, derived from quartz veins and quartz-rich rock
Wz	Gravel, sand, and silt sheetwash deposits with abundant silcrete

Alluvial units, age undivided or unassigned

A	Clay, silt, sand, and gravel in channels and on floodplains
Aa	Sand- or clay-rich alluvium on alluvial plain
Ai	Unconsolidated, fine-grained deposits in alluvial drainage depressions, claypans, and ephemeral floodplain lakes; low-lying areas with internal drainage

Lacustrine unit, age undivided or unassigned

Lp	Saline and gypsiferous evaporite deposits, clay, silt, and sand in playa lakes

Eolian units, age undivided or unassigned

Er	Eolian sandplain
Es	Unconsolidated, quartz-dominated eolian sand overlying alluvial-playa plain
Et	Unconsolidated, fine-grained eolian sand over older alluvium

Sandplain unit, age undivided or unassigned

Sp	Sand and playa terrain; dunes dominant

C1 | C1c | C1f | C1k | C1q | C1z | A1 | A1c | A1f

Colluvial units, unconsolidated

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
C1f	Unconsolidated ferruginous rubble and scree
C1k	Calcrete and vuggy opaline silica rubble and scree in an unconsolidated, sandy, carbonate-rich matrix
C1q	Unconsolidated quartz fragments in a silt and sand matrix; derived from quartz veins and quartzose rocks
C1z	Unconsolidated rubble and scree of silcrete and brecciated siliceous caprock

Alluvial units, unconsolidated

A1	Unconsolidated silt, sand, and gravel in active drainage channels and floodplains; includes ferruginous deposits
A1c	Unconsolidated silt, sand, and gravel in stream channels
A1f	Unconsolidated silt, sand, and minor gravel in floodplains adjacent to present-day drainage

C2f | C2q | A2

Colluvial units, weakly consolidated

C2f	Partly consolidated ferruginous rubble and scree
C2q	Quartz fragments in a partly consolidated silt and sand matrix, derived from quartz veins and quartzose rocks

Alluvial unit, weakly consolidated

A2	Partly consolidated silt, sand, and gravel; partly 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

PALEOGENE — EOCENE

Geme-stz — **MERLINLEIGH SANDSTONE:** coarse-grained sandstone; lesser siltstone, conglomerate, and claystone; commonly intensely silicified

MESOZOIC — CRETACEOUS — Winning Group

KWN-sf — Shale, siltstone, marl, and basal sandstone; commonly glauconitic; radiolarian siltstone in central part

Knα-sz — **NANUTARRA FORMATION:** sandstone, siltstone, lesser pebble to cobble conglomerate; texturally immature

PALEOZOIC — PERMIAN — Wooramel Group

PWOb-sf — **BILLIDEE FORMATION:** grey siltstone; fine- to medium-grained sandstone; lesser black shale; minor granule to pebble conglomerate

PWOm-st — **MOOGOOLOO SANDSTONE:** fine to very coarse grained quartz sandstone; minor siltstone and granule to pebble conglomerate

Pcα-kt — **CALLYTHARRA FORMATION:** fossiliferous, calcareous siltstone to calcisiltite; interbedded, hard, fossiliferous calcarenite

Lyons Group

CPLY-sepg — Diamictite, sandstone and siltstone (locally calcareous), shale, and boulder beds and lags; glacigene

CPLYh-st — **HARRIS SANDSTONE:** fine- to coarse-grained sandstone; minor siltstone and (near base) diamictite

CARBONIFEROUS

Cyi-sk — **YINDAGINDY FORMATION:** quartzose, lithic, and calcareous sandstone; lesser calcilutite and calcarenite

Cwi-sg — **WILLIAMBURY FORMATION:** poorly sorted, silty lithic sandstone, pebble to cobble conglomerate; claystone

Cmo-kx — **MOOGOOREE LIMESTONE:** limestone and dolomite (wackstone, packstone, grainstone, and boundstone); minor calcareous sandstone

DEVONIAN

Dwr-sg — **WILLARADDIE FORMATION:** poorly sorted, commonly pebbly, lithic sandstone, and granule to pebble conglomerate; claystone

Dmu-st — **MUNABIA SANDSTONE:** medium-grained quartz sandstone; minor siltstone, conglomerate, and dolomite

Dgn-sk — **GNEUDNA FORMATION:** calcareous siltstone, limestone (mostly packstone, commonly silty); siltstone, fine- to medium-grained sandstone

Dny-st — **NANNYARRA SANDSTONE:** fine- to coarse-grained sandstone; minor siltstone and claystone; local basal conglomerate

SOUTHERN CARNARVON BASIN

zq | zqx

zq	Quartz vein or pod; massive, crystalline, or brecciated; age uncertain
zqx	Brecciated quartz vein; age uncertain

Mulka Tectonic Event (c. 570 Ma)

c. 755 Ma[1] — ᴾMW-od — **Mundine Well Dolerite Suite:** dolerite dykes, sills, and small intrusions with locally abundant xenoliths and potassic alteration of wallrocks; includes minor quartz diorite, syenite, tonalite, and biotite monzogranite

Edmundian Orogeny (1026–954 Ma[2])

Mutherbukin Tectonic Event (1385–1171 Ma)

MESOPROTEROZOIC — PROTEROZOIC

ᴾmod-GA — Massive metadolerite and foliated amphibolite; fine and medium grained

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

Bangemall Supergroup — Edmund Group

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

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

ᴾMEk-sf — **KIANGI CREEK FORMATION:** siltstone and thin- to thick-bedded sandstone; minor conglomerate

ᴾMEk-sl — Siltstone; minor fine-grained sandstone, dolostone, and chert

ᴾMEg-ss — **GOORAGOORA FORMATION:** fine to very coarse grained sandstone and siltstone; minor conglomerate, dolostone, and dolomitic siltstone

ᴾMEi-kd — **IRREGULLY FORMATION:** stromatolitic and non-stromatolitic dolostone; minor siltstone and sandstone

ᴾMEy-st — **YILGATHERRA FORMATION:** sandstone; subordinate siltstone, conglomerate, and dolostone

<1620 Ma

EDMUND BASIN

Mangaroon Orogeny (1683–1619 Ma[3])

PALEOPROTEROZOIC — Durlacher Supersuite

1683–1619 Ma — ᴾDUdα-mgmu | ᴾDUdi-grpv | ᴾDUpi-gmw | ᴾDU-ggvs | ᴾDU-gmbi | ᴾDU-gmp | ᴾDU-gmpb | ᴾDU-gmv | ᴾDU-gmvt | ᴾDU-jgmv-mggu | ᴾDU-gpt

ᴾDUdα-mgmu	**DAVEY WELL GRANITE:** schistose, coarse-grained, strongly porphyritic biotite metamonzogranite; round phenocrysts of K-feldspar up to 6 cm in diameter
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
ᴾDU-ggvs	Schleiric, medium-grained biotite–muscovite granodiorite and minor flow-banded biotite–muscovite monzogranite, both with abundant inclusions of metasedimentary rock and augen gneiss
ᴾDU-gmbi	Fine- to medium-grained monzogranite to granodiorite; locally schlieric with abundant metasedimentary inclusions
ᴾDU-gmp	Fine- to medium-grained, biotite(–muscovite) monzogranite; porphyritic; contains small biotite-rich clots (section only)
ᴾDU-gmpb	Medium- to coarse-grained porphyritic biotite monzogranite; locally seriate to porphyritic
ᴾDU-gmv	Leucocratic, medium-grained muscovite–biotite granodiorite and monzogranite; equigranular to weakly porphyritic
ᴾDU-gmvt	Leucocratic, medium-grained muscovite–tourmaline(–biotite) monzogranite; locally garnet bearing
ᴾDU-jgmv-mggu	Leucocratic, medium-grained equigranular muscovite(–biotite) monzogranite; abundant inclusions of medium-grained biotite metagranodiorite with tabular to subrounded K-feldspar augen up to 3 cm in diameter
ᴾDU-gpt	Tourmaline–muscovite pegmatite and coarse-grained granite, and fine-grained, leucocratic tourmaline–muscovite monzogranite

Pooranoo Metamorphics

1741–1683 Ma — ᴾPO-mtsf | ᴾPO-xmtsf-gmp | ᴾPO-xmtsf-gmv | ᴾPO-xmtsf-gmvt

ᴾPO-mtsf	Psammitic schist and gneiss, and feldspathic metasandstone; includes interbedded pelite, quartzite, and granule metaconglomerate
ᴾPO-xmtsf-gmp	Psammitic schist with interlayered porphyritic biotite monzogranite; minor pelitic schist
ᴾPO-xmtsf-gmv	Psammitic schist with interlayered leucocratic muscovite monzogranite; minor pelitic schist
ᴾPO-xmtsf-gmvt	Psammitic schist with interlayered leucocratic muscovite–tourmaline monzogranite; minor pelitic schist

Capricorn Orogeny (1817–1772 Ma[4])

Moorarie Supersuite

1817–1773 Ma — ᴾMO-mggn | ᴾMO-gge | ᴾMO-gglb | ᴾMO-gml | ᴾMO-gmp | ᴾMO-gti | ᴾMO-mog

ᴾMO-mggn	Foliated and gneissic metagranodiorite and metatonalite; weakly pegmatite banded
ᴾMO-gge	Equigranular to sparsely porphyritic, medium-grained biotite(–muscovite) granodiorite
ᴾMO-gglb	Leucocratic, equigranular biotite granodiorite or monzogranite; biotite forms clots; fine- and medium-grained
ᴾMO-gml	Massive, equigranular, leucocratic biotite monzogranite; medium and coarse grained
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-gti	Medium- to coarse-grained tonalite with abundant mafic clots; lesser medium-grained granodiorite with scattered mafic clots
ᴾMO-mog	Massive, subophitic metagabbro; medium grained; amphibolite; minor hornblende schist

Leake Spring Metamorphics

1842–1807 Ma — ᴾLS-mhs | ᴾLS-xmh-mwα | ᴾLS-mtq | ᴾLS-mts | ᴾLS-mus

ᴾLS-mhs	Pelitic and psammitic schist; quartz–biotite–muscovite–feldspar schist, quartz–sericite–biotite schist, quartz–sericite–chlorite schist; minor metasandstone and granule metaconglomerate
ᴾLS-xmh-mwα	Psammitic and pelitic schist, and interlayered amphibolite
ᴾLS-mtq	Fine- to medium-grained recrystallized quartzite; minor fine-grained sericitic quartzite
ᴾLS-mts	Psammitic schist; quartz–chlorite–muscovite schist
ᴾLS-mus	Actinolite schist and actinolite–chlorite–sericite schist after ultramafic rock

GASCOYNE PROVINCE