PHANEROZOIC

CENOZOIC

Colluvial units

Cgpg	Quartzofeldspathic sand, silt, and gravel in colluvial deposits derived from granitic rocks
Cgs	Quartzofeldspathic sand, silt, and gravel in colluvial deposits derived from sedimentary rocks
Cgvf	Quartzofeldspathic sand, silt, and gravel in colluvial deposits derived from felsic volcanic rocks
Ckc	Carbonate-rich colluvial deposits derived from biochemical sedimentary rocks; dolomite and limestone
Cmpl	Ferromagnesian colluvial deposits and lateritic soils derived from dolerite
Cmvb	Ferromagnesian, red-brown sand and silt, with pisoliths; derived from basalt
Cqs	Quartz-rich sand, silt and gravel in colluvial deposits derived from sedimentary rocks
Cxis	Micaceous colluvium derived from sedimentary rocks

Alluvial units

A	Clay, silt, sand, and gravel in channels and on floodplains
Aacb	Black soils (gilgai); grey to black smectitic clays on alluvial plains

Residual or relict units

Rrfpl	Ferruginous duricrust derived from dolerite
Rrf	Transported ferruginous duricrust; iron-cemented sand and gravel

Ꝑlpzq — Quartz vein; massive, crystalline, or brecciated; various ages from Paleoproterozoic to Phanerozoic

Ꝑlpod — Dolerite dykes crosscutting the Lamboo Province and Kimberley Basin; commonly metamorphosed to amphibolite facies

PALEOZOIC

CARBONIFEROUS–PERMIAN

DCpe-od — PRINCE REGENT DOLERITE: dolerite; typically northwesterley trending dykes

Alice Springs Orogeny (450–295 Ma)

DEVONIAN — Devonian Reef Complexes — Canning Basin

FRASNIAN–FAMENNIAN

Dph-ktxi — PIKER HILLS FORMATION: yellow and grey limestone, siltstone and sandstone, locally conglomeratic (in debris flows); Famennian marginal slope and basinal facies

Dbq-sbp — BARRAMUNDI CONGLOMERATE: siliciclastic cobble to boulder conglomerate, minor sandstone; late Famennian platform and basin floor conglomerates associated with carbonate reef complexes

Dvh-ktxi — VIRGIN HILLS FORMATION: thin-bedded red and grey silty limestone, siltstone, sandstone, and calcirudite (in debris flows) with some allochthonous blocks of reef limestone; Frasnian and Famennian marginal slope and basin facies

GIVETIAN–FRASNIAN

Dst-sbp — STONY CREEK CONGLOMERATE: siliciclastic cobble to boulder conglomerate, minor sandstone and interbedded limestone; Frasnian platform and basin floor conglomerates associated with carbonate reef complexes

Dpi-kltp — PILLARA LIMESTONE: massive to well-bedded, stromatoporoid and microbial limestone; locally dolomitized, locally sandy and grading to sandstone; platform facies (generally back-reef) in carbonate reef complexes

NEOPROTEROZOIC

King Leopold Orogeny (c. 560 Ma)

Mount House Group — Louisa Basin

ꝐHUe-s — ESTAUGHS FORMATION: purple to grey, fine- to medium-grained, micaceous sandstone with interbedded green siltstone; capped by blocky cross-bedded sandstone

ꝐHUt-sh — THROSSELL SHALE: blue-grey or grey-green, poorly laminated, micaceous siltstone and shale; coarsening upwards with grey-green, fine-grained flaggy, micaceous sandstone interbeds

ꝐHUa-st — TRAINE FORMATION: green to brown, coarse-grained, lithic sandstone with minor sandy dolomite and dolomitic sandstone; scattered glacial erratics up to 2.5 m diameter

ꝐHUw-sepg — WALSH TILLITE: matrix-supported, polymictic pebble to boulder conglomerate with green siltstone and shale matrix; capped by microbial to stromatolitic dolomite

PROTEROZOIC

Yampi Orogeny (1475–999 Ma)

Bastion Group — Bastion Basin — NORTH AUSTRALIAN CRATON

ꝐBAm-stq — MENDENA FORMATION: fine- to coarse-grained quartz sandstone, micaceous sandstone, siltstone and mudstone; minor carbonate rock; sandstone contains mudstone pebbles locally

Hart–Carson Large Igneous Province

Ꝑha-od — HART DOLERITE: dark-grey dolerite and gabbro, and pink to pale-grey, medium- to coarse-grained granophyre

Ꝑha-gv — Pink to pale-grey, medium- to coarse-grained granophyre

PALEOPROTEROZOIC — 1799–1791 Ma

Kimberley Group — Kimberley Basin — NORTH AUSTRALIAN CRATON

Upper Kimberley Group

ꝐKMp-sr — PENTECOST SANDSTONE: quartz sandstone, pebbly sandstone, siltstone and mudstone; Upper unit: medium- to coarse-grained quartz sandstone and pebbly quartz sandstone

ꝐKMp-ss — Middle unit: pink and white quartz sandstone, purple to grey fine-grained sandstone, purple siltstone and mudstone

ꝐKMp-stq — Lower unit: quartz sandstone, feldspathic sandstone, and micaceous siltstone

ꝐKMe-xsl-kd — ELGEE SILTSTONE: red-brown and grey siltstone, mudstone and sandstone; basal dolomitic siltstone that is locally oolitic and stromatolitic

ꝐKMet-kd — Teronis Member: stromatolitic dolostone, sandy dolostone, oolitic dolostone, mudstone, micaceous siltstone, and fine-grained sandstone

ꝐKMw-st — WARTON SANDSTONE: white to buff quartz sandstone and feldspathic sandstone; siltstone interbeds; minor hematitic sandstone

Lower Kimberley Group

ꝐKMc-bb — CARSON VOLCANICS: massive and amygdaloidal basalt and basaltic volcaniclastic rock; interbedded quartz sandstone, feldspathic sandstone, siltstone and chert

ꝐKMc-sta — Feldspathic sandstone, quartz sandstone, and siltstone; localized stromatolitic chert

ꝐKMl-st — KING LEOPOLD SANDSTONE: white to pale-brown, medium- to coarse-grained quartz sandstone and pebbly quartz sandstone; minor siltstone and granule to pebble conglomerate

ꝐKMe-sos — Emu Point Member: pebble and cobble conglomerate; boulder conglomerate; clasts of quartz and siliciclastic sedimentary rock; coarse-grained sandstone interbeds

Speewah Group

ꝐSPb-stq — BEDFORD SANDSTONE: white to pale brown sandstone and conglomerate

ꝐSPl-sl — LUMAN SILTSTONE: green and brown siltstone, mudstone, and thin-bedded sandstone; ferruginous, micaceous siltstone

ꝐSPo-sta — LANSDOWNE ARKOSE: thin-to thick-bedded, cross-bedded feldspathic sandstone with interbedded micaceous siltstone and mudstone

ꝐSPv-sl — VALENTINE SILTSTONE: flaggy siltstone and mudstone, commonly micaceous or chloritic; minor thin-bedded feldspathic and quartz sandstone

ꝐSPt-st — TUNGANARY FORMATION: buff and grey feldspathic sandstone, quartz sandstone, brown and green siltstone and mudstone

ꝐSPn-stq — O'DONNELL FORMATION: fine- to coarse-grained quartz sandstone and lithic quartz sandstone, pebbly sandstone, chloritic siltstone and mudstone, and granule to pebble conglomerate

Ꝑwn-od — WARMUN DOLERITE: dolerite dykes crosscutting the Central and Western Lamboo Provinces; typically northwest-trending

Halls Creek Orogeny (1832–1808 Ma)

Hooper Orogeny (1870–1850 Ma)

Paperbark Supersuite — Lamboo Province — Halls Creek Orogen

ꝐPB-xg-o — Granite, microgranite, gabbro, layered mafic–ultramafic intrusions, and felsic volcanic rock

1867–1849 Ma [1]

ꝐPBlh-mgm — LONG HOLE GRANITE: foliated, coarse-grained, porphyritic metamonzogranite and augen gneiss

ꝐPBmu-gr — MULKERINS GRANITE: coarse- to medium-grained, biotite syenogranite and monzogranite

ꝐPBtu-gme — TUMAGEE GRANITE: medium-grained, equigranular or weakly porphyritic biotite monzogranite and granodiorite; minor tonalite

ꝐPBtw-gtp — TOP WATER TONALITE: medium-grained, quartz-phyric biotite tonalite and granodiorite; metasedimentary rock inclusions are abundant near contacts with Marboo Formation

1860 ± 3 Ma [2]

ꝐPBnv-ggb — NEVILLE GRANODIORITE: medium- to fine-grained, biotite granodiorite and tonalite; minor monzogranite; abundant inclusions of metasedimentary rock at contact with Marboo Formation

ꝐPBbi-mgm — BICKLEYS PORPHYRY: foliated metamicromonzogranite with phenocrysts of quartz and feldspar

1864–1862 Ma [3]

ꝐPBln-mgm — LENNARD GRANITE: foliated, coarse-grained, porphyritic biotite metamonzogranite; minor metasyenogranite, metagranodiorite and equigranular metamonzogranite

ꝐPBcy-mgm — CHANEYS GRANITE: foliated biotite metamonzogranite and metagranodiorite; weakly porphyritic; contains small mafic inclusions

ꝐPBle-mgg — LERIDA GRANITE: foliated, porphyritic, biotite metagranodiorite; contains green plagioclase and small mafic inclusions

ꝐPBmd-mgm — MOUNT DISASTER PORPHYRY: foliated, porphyritic, biotite metamicromonzogranite; phenocrysts of K-feldspar, plagioclase and quartz

ꝐPBgr-gga — LITTLE GOLD RIVER MICROGRANITE: microgranodiorite, micro-quartz diorite, and orthopyroxene-phyric andesite

1857–1849 Ma [1 3]

ꝐPBww-f — WHITEWATER VOLCANICS: porphyritic rhyolite to dacite; coherent lavas, subvolcanic intrusions, and pyroclastic deposits; commonly crystal rich; minor volcanic breccia, lapilli tuff, and volcaniclastic rock; locally foliated

<1872–1864 Ma [4]

Ꝑmr-mh — MARBOO FORMATION: thin-bedded, turbiditic metasandstone and quartz–chlorite–muscovite phyllite; hornfelsed adjacent to granite intrusions

Ꝑmr-mhei — Hornfels and hornfelsic schollen (raft) migmatite: interlayered quartz–K-feldspar–muscovite–biotite–garnet psammitic gneiss, and quartz–K-feldspar–muscovite–biotite–sillimanite(–andalusite)–cordierite pelitic gneiss