

PROTEROZOIC-
PHANEROZOIC

CENOZOIC

PALEOZOIC

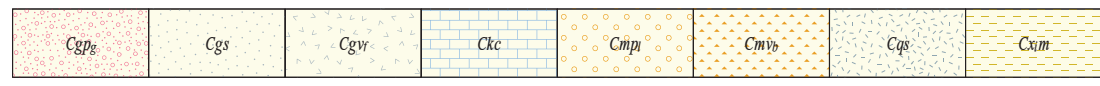
CAMBRIAN

MIOCENE
22–18 Ma¹

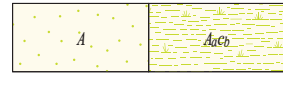
DEVONIAN

FRASNIAN-
FAMENNIAN

c. 510 Ma



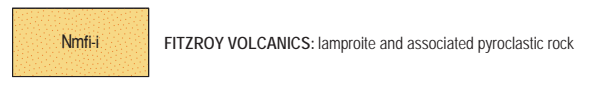
Colluvial units
Cgpe Quartzofeldspathic sand, silt, and gravel in colluvial deposits derived from granitic rocks
Cgs Quartzofeldspathic sand, silt, and gravel in colluvial deposits derived from sedimentary rocks
Cgv Quartzofeldspathic sand, silt, and gravel in colluvial deposits derived from felsic volcanic rocks
Ckc Carbonate-rich colluvial deposits derived from biochemical sedimentary rocks; dolomite and limestone
Cmpi Ferromagnesian colluvial deposits and lateritic soils derived from dolerite
Cmvb Ferromagnesian colluvial deposits, red-brown sand and silt, with pisoliths; derived from basalt
Cqs Quartz-rich sand, silt and gravel in colluvial deposits derived from sedimentary rocks
Cxm Micaceous colluvium derived from metasedimentary rocks



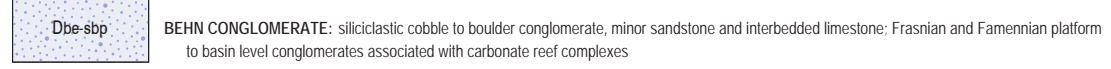
Alluvial units
A Clay, silt, sand, and gravel in channels and on floodplains
Aocb Black soils (gilgai); grey to black smectitic clays on alluvial plains



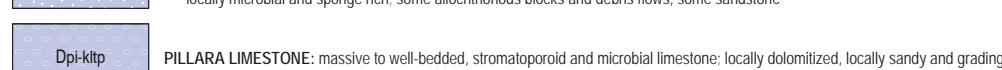
Residual or Relic units
Rfs Transported ferruginous duricrust; iron-cemented sand, gravel, cobbles, and boulders; derived from siliciclastic sedimentary rocks
Rqsc Residual alluvial deposits on mesas; derived from pebble conglomerate and quartz sandstone



FITZROY VOLCANICS: lamproite and associated pyroclastic rock



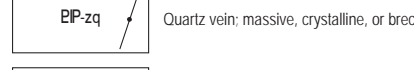
BEHN CONGLOMERATE: siliciclastic cobble to boulder conglomerate, minor sandstone and interbedded limestone; Frasnian and Famennian platform to basin level conglomerates associated with carbonate reef complexes



NAPIER FORMATION: well-bedded to massive fore-reef, reefal slope, and basinal limestone; locally dolomitized and steeply dipping; locally microbial and sponge rich; some allochthonous blocks and debris flows, some sandstone



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



MILLIWINDI DOLERITE: dolerite dyke

King Leopold Orogeny (c. 560 Ma)



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



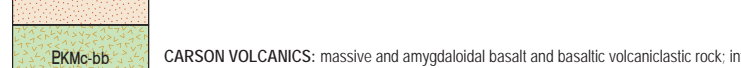
Dolerite dykes crosscutting the Paperbark Supersuite and Kimberley Basin; commonly metamorphosed to amphibolite facies

Yampi Orogeny (1475–999 Ma)

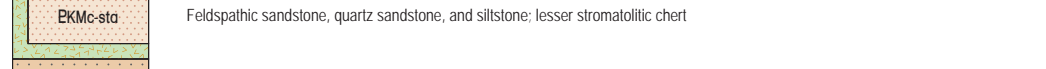
c. 1795 Ma



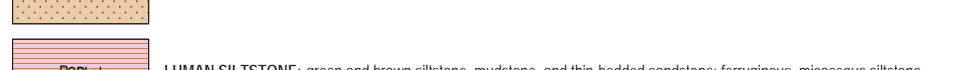
HART DOLERITE: dark-grey dolerite and gabbro, and pink to pale-grey, medium- to coarse-grained granophyre
 Pink to pale-grey, medium- to coarse-grained granophyre



PENTECOST SANDSTONE: quartz sandstone, pebbly sandstone, siltstone, and claystone



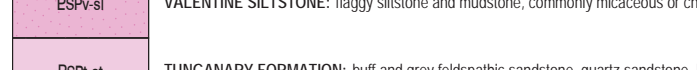
ELGEE SILTSTONE: red-brown and grey siltstone and mudstone, stromatolitic dolostone, sandy dolostone, oolitic dolostone, and sandstone



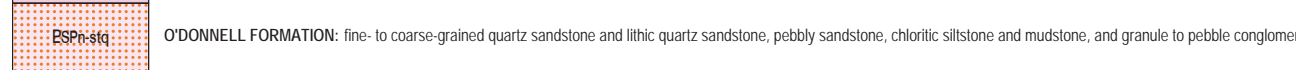
WARTON SANDSTONE: white to buff quartz sandstone and feldspathic sandstone; siltstone interbeds; minor hematitic sandstone



CARSON VOLCANICS: massive and amygdaloidal basalt and basaltic volcanoclastic rock; interbedded quartz sandstone, feldspathic sandstone, siltstone, and chert



Feldspathic sandstone, quartz sandstone, and siltstone; lesser stromatolitic chert



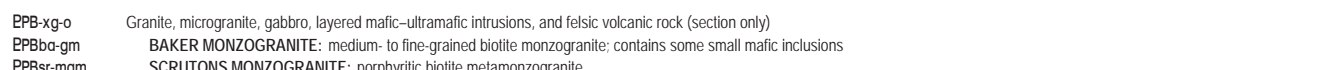
KING LEOPOLD SANDSTONE: white to pale-brown, medium- to coarse-grained quartz sandstone and pebbly quartz sandstone; minor siltstone and granule to pebble conglomerate



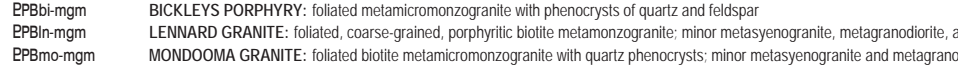
LUMAN SILTSTONE: green and brown siltstone, mudstone, and thin-bedded sandstone; ferruginous, micaceous siltstone



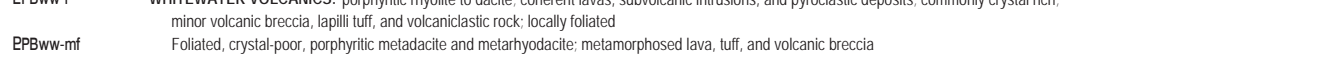
LANSDOWNE ARKOSE: thin-bedded, purple-brown, grey, and white feldspathic sandstone with interbedded quartz sandstone; minor micaceous siltstone and mudstone



VALENTINE SILTSTONE: flaggy siltstone and mudstone, commonly micaceous or chloritic; minor, thin-bedded, feldspathic quartz sandstone and dacitic to rhyolitic, volcanoclastic siltstone



TUNGANARY FORMATION: buff and grey feldspathic sandstone, quartz sandstone, brown and green siltstone and mudstone



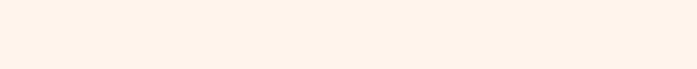
O'DONNELL FORMATION: fine- to coarse-grained quartz sandstone and lithic quartz sandstone, pebbly sandstone, chloritic siltstone and mudstone, and granule to pebble conglomerate

Halls Creek Orogeny (1835–1810 Ma)



EPB-xg-o Granite, microgranite, gabbro, layered mafic-ultramafic intrusions, and felsic volcanic rock (section only)
EPBba-gm **BAKER MONZOGRANITE:** medium- to fine-grained biotite monzogranite; contains some small mafic inclusions
EPBsr-mgm **SCRUTONS MONZOGRANITE:** porphyritic biotite metamonzogranite
EPBri-mgg **RICHENDA MICROGRANODIORITE:** foliated, medium- to fine-grained metagranodiorite and metatonalite
EPBbi-mgm **BICKLEYS PORPHYRY:** foliated metamicromonzogranite with phenocrysts of quartz and feldspar
EPBin-mgm **LENNARD GRANITE:** foliated, coarse-grained, porphyritic biotite metamonzogranite; minor metasyenogranite, metagranodiorite, and equigranular metamonzogranite
EPBmo-mgm **MONDOOMA GRANITE:** foliated biotite metamicromonzogranite with quartz phenocrysts; minor metasyenogranite and metagranodiorite
EPBmd-mgm **MOUNT DISASTER PORPHYRY:** foliated, porphyritic, biotite metamicromonzogranite; phenocrysts of K-feldspar, plagioclase, and quartz
EPBww-f **WHITEWATER VOLCANICS:** porphyritic rhyolite to dacite; coherent lavas, subvolcanic intrusions, and pyroclastic deposits; commonly crystal rich; minor volcanic breccia, lapilli tuff, and volcanoclastic rock; locally foliated
EPBww-mf Foliated, crystal-poor, porphyritic metadacite and metarhyodacite; metamorphosed lava, tuff, and volcanic breccia

Hooper Orogeny (1870–1850 Ma)



ERUINS DOLERITE: coarse- to fine-grained metadolerite; equigranular to porphyritic

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

Medium-grade psammitic and pelitic schist; quartz-muscovite-biotite(-chlorite) psammitic and quartz-muscovite-biotite(-chlorite-andalusite-kyanite-staurolite-garnet) pelite

Medium-grade psammitic and pelite; quartz-muscovite-sillimanite-andalusite(-cordierite) schist and quartz-K-feldspar-biotite-muscovite-sillimanite(-garnet-tourmaline) schist

MOUNT JOSEPH MIGMATITE: psammitic and pelitic migmatite and granofels; quartz-K-feldspar-plagioclase-biotite-sillimanite-muscovite(-cordierite-garnet-andalusite) rock; anatectic granite

CANNING BASIN
KALKARINDI LARGE
IGNEOUS PROVINCE

KIMBERLEY BASIN
SPEEWAH BASIN

LAMBDO PROVINCE
HALLS CREEK OROGEN

NORTH AUSTRALIAN CRATON

PROTEROZOIC

PALEOPROTEROZOIC

c. 1835 Ma²

Kimberley Group

Speewah Group

c. 1858 Ma³

1864–1862 Ma⁴

c. 1862 Ma⁴

1864–1854 Ma⁴

>1872 Ma³

Paperbark Supersuite