REFERENCE

PHANEROZOIC

CAINOZOIC — **QUATERNARY**

Qa Ql Qd Qs Qp

Qa Alluvium – clay, silt, sand, gravel; in drainage channels and adjacent flood plains
Ql Lacustrine deposits – clay, silt; saline in part
Qd Mixed lacustrine and eolian deposits – clay, silt, sand
Qs Eolian sand – in sheets and longitudinal (seif) dunes
Qp Eolian sand mixed with ironstone pebbles derived from Tl and Tc

Qr Qb Qw Qc Qe Qt

Qr Colluvium – mixed gilgai and gravel flood plains; low slope deposits
Qb Eluvium – gilgai; swelling clay soils characterised by "crabholes"; derived from basalt, dolerite or shale
Qw Colluvium and alluvium – silt, sand, gravel in broad, striped, sheet wash areas
Qc Colluvium and minor alluvium – sand, gravel on slopes adjacent to bedrock
Qe Colluvium and eluvium – clay hardpan, partly ferruginised silt, sand, gravel derived from and overlying Tc and Tb
Qt Colluvium and eluvium – gravel, boulder deposits, clay matrix; derived from **PATERSON FORMATION**

Czk — Calcrete, sandy limestone – in sheets and lenses; old valley fill

TERTIARY

Tc Tl Td Tb Tp

Tc Colluvium – consolidated, ferruginised silt, sand, gravel; dissected by present drainage
Tl Laterite – massive, nodular and pebbly
Td Ferruginous duricrust overlying **MARRA MAMBA FORMATION**
Tb Mixed siliceous caprock and colluvium; secondary siliceous breccia, jasperoidal chalcedony over ultramafic rocks
Tp Pisolitic limonite, goethite, hematite deposits; in old drainage lines

To — **OAKOVER FORMATION** : vuggy white opaline silica and calcareous sandstone, sandy limestone

PALAEOZOIC — **PERMIAN**

Pa — **PATERSON FORMATION** : basal polymictic conglomerate and tillite overlain by cross-bedded sandstone, conglomerate and laminated claystone

PRECAMBRIAN

q d_4

q Quartz veins, various ages
d_4 Dolerite dyke

SAVORY BASIN — Savory Group

SVc — **COONDRA FORMATION** : massive and flaggy quartz sandstone characterised by large cross-beds, some pebble bands
SVc(w) — Quartz wacke, lithic wacke
SVw — **WATCH POINT FORMATION** : laminated siltstone, shale and fine-grained sandstone

PATERSON OROGEN — Yeneena Group

c. 890 Ma

Yi — **ISDELL FORMATION** : fine-grained, laminated and coarse-grained clastic carbonate rocks, stromatolitic dolomite, minor sandstone and conglomerate
Yi(a) — Quartz sandstone and pebble conglomerate
Yh — **CHOORUN FORMATION** : interbedded shale, micaceous siltstone, silicified quartz sandstone
Yy — **YANDANUNYAH FORMATION** : interbedded laminated dolomite, calcareous siltstone and shale
Yr — **BROWNRIGG SANDSTONE** : cross-bedded, flaggy siliceous quartz sandstone
Yw — **WAROONGUNYAH FORMATION** : laminated and stromatolitic dolomite, interbedded shale, siltstone and quartz sandstone
Yg — **GOOGHENAMA CONGLOMERATE** : conglomerate with interbedded quartz sandstone

BANGEMALL BASIN — Manganese Group

dd — **DAVIS DOLERITE** : fine to medium-grained dolerite in sills and dykes

MNh — **WHITEWOOD FORMATION** : interbedded coarse-grained lithic sandstone and conglomerate
MNb — **BALFOUR FORMATION** : pale-grey to grey-green shale, fine-grained micaceous, calcareous and glauconitic sandstone interbedded with chocolate, purple to red-brown shale, micaceous siltstone containing braunite pellets
MNe — **ENACHEDDONG DOLOMITE** : laminated and massive dolomite; minor shale
MNs MNs(a) MNs(c) MNs(d) MNs(i) MNs(s) MNs(f) MNs(t)

MNs **STAG ARROW FORMATION** : interbedded sandstone, siltstone, shale, conglomerate, dolomite and chert
MNs(a) Medium and coarse-grained sandstone
MNs(c) Interbedded quartz sandstone and conglomerate
MNs(d) Massive and laminated dolomite
MNs(i) Massive and weakly banded chert
MNs(s) Shale and micaceous siltstone
MNs(f) Laminated fine-grained sandstone interbedded with shale and siltstone
MNs(t) Stromatolitic dolomite

MNw MNw(a) MNw(c) MNw(i)

MNw **WOBLEGUN FORMATION** : light-grey, maroon and green shale, interbedded fine-grained micaceous sandstone
MNw(a) Medium and coarse-grained quartz sandstone
MNw(c) Polymictic conglomerate
MNw(i) Chert

c. 1050 Ma — MNc — **COONDOON FORMATION** : poorly sorted conglomerate, coarse-grained lithic sandstone, quartz wacke, glauconitic sandstone, minor dolomite interbedded red-brown manganiferous shale

HAMERSLEY BASIN — Mount Bruce Supergroup

zb — **PINJIAN CHERT BRECCIA** : chert breccia, poorly banded chert, commonly capped with secondary, silicified breccia Tb, overlies **CARAWINE DOLOMITE**

t — Microcline biotite-trachyte, lamprophyre; in dykes and small irregular bodies

Hamersley Group

Hc — **CARAWINE DOLOMITE** : massive and weakly banded recrystallised grey, brown dolomite, minor chert; stromatolitic dolomite
Hm — **MARRA MAMBA IRON-FORMATION** : green-grey banded chert, thin banded iron-formation, shale

d_3 — Fine to coarse-grained dolerite sills and dykes

Fortescue Group — Low grade regional metamorphism (burial metamorphism)

c. 2760 Ma

Fj — **JEERINAH FORMATION** : shale, chert, jaspilite, mudstone, sandstone, dolomite; minor pillow lava and felsic volcanic lava and tuff
Fjr — **Roy Hill Shale Member** : leached white shale; silicified; pyrite balls
Fjw(d) — Dolomitic unit in **Warri Member** interbedded blue chert
Fjw — **Warri Member** : interbedded shale, mudstone, chert, thin bedded dolomite
Fj(v) — Discontinuous pillowed basalt flows, some amygdaloidal; carbonate-rich; intermediate tuff and porphyritic flows, pisolitic tuff north east of Canning Bore
Fjo — **Woodiana Sandstone Member** : lithic sandstone, grey-green mudstone, pebble conglomerate
Fn — **NYMERINA BASALT** : dark-green to grey amygdaloidal, vesicular and massive basalt; amygdales of agate and carnelian common
Fn(p) — Pyroclastic and sedimentary units in **NYMERINA BASALT**
Ft — **TUMBIANA FORMATION** : pisolitic tuff, tuff, mudstone, lithic sandstone, dolomite with stromatolites
Ftc — **Meentheena Carbonate Member** : banded dark-grey dolomite, limestone with bioherms of stromatolite
Ftt — **Mingah Tuff Member** : interbedded tuff, pisolitic tuff, mudstone, lithic sandstone
Fk — **KYLENA BASALT** : dark-green amygdaloidal, vesicular and massive basalt; minor pillowed basalt
Fk(v) — Agglomerate
Fh — **HARDEY SANDSTONE** : quartz, lithic and feldspathic sandstone, minor tuffaceous shale, pisolitic tuff
Fh(c) — Very coarse boulder conglomerate in poorly sorted matrix
Fr — **MOUNT ROE BASALT** : massive and amygdaloidal basalt

PILBARA CRATON

do d_1 fr d_2

do Gabbro and coarse-grained dolerite dykes
d_1 Melanocratic dolerite, gabbro, pyroxenite dykes
fr Felsic dyke; aplite
d_2 Dolerite dyke

fp dl

fp Foliated fine-grained felsic porphyry with rounded feldspar phenocrysts
dl Layered mafic intrusion; pyroxenite to gabbro

gc gb ge

gc Medium to coarse-grained biotite syenogranite and monzogranite
gb Fine to coarse-grained biotite syenogranite and monzogranite, weak foliation
ge Medium to coarse-grained leucocratic syenogranite and monzogranite

c. 2800 – 3300 Ma — gg ga gm gmx

gg Strongly deformed schistose and well foliated syenogranite and monzogranite
ga Strongly deformed granitic augen gneiss
gm Fine to medium-grained biotite granitic gneiss; flaser gneiss, some migmatitic phases
gmx Meta-sedimentary and meta-volcanic xenoliths and granitic rocks in approximately equal proportions

Gorge Creek Group

c. 3000 Ma

GCm — **MOSQUITO CREEK FORMATION** : greywacke, pelite, psammite, minor conglomerate
GCmx — Chert

Regional metamorphism attains amphibolite facies

sq si sp sr

sq Quartzite, fuchsite quartzite
si Banded quartz magnetite rock, jaspilite
sp Pelitic schist; muscovite-garnet-andalusite (-staurolite) assemblages
sr Corundum-muscovite-rutile assemblages; some crystalline diaspore

ba — Amphibole-plagioclase schist

uu uc ux

uu Ultramafic rock (unassigned); tremolite-chlorite-talc assemblages
uc Serpentinite, some talc; after peridotite
ux Coarse-grained pyroxenite; pyroxene generally altered to amphibole