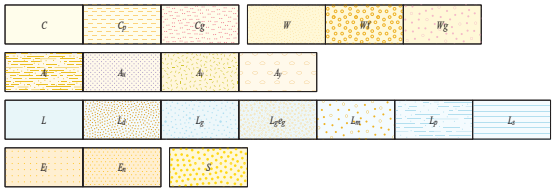
PHANEROZOIC

CENOZOIC



Colluvial units

C	Colluvium derived from different rock types: includes gravel, sand, silt and clay
Cp	Clay, silt, and sand of mixed origin in pediplain deposits; subcropping bedrock
Cg	Gravel, sand, and silt, commonly derived from quartzofeldspathic rocks and associated weathering products

Sheetwash units

W	Clay, silt, and sand in sheetwash fans
Wf	Clay, silt, and sand with abundant ferruginous grit
Wg	Clay, silt, and sand, commonly derived from quartzofeldspathic rocks

Alluvial units

Ai	Sand, silt, and clay in alluvial drainage depressions, claypans, and ephemeral floodplain lakes; low-lying areas with internal drainage
Au	Superficial channel commonly terminating at a sheetwash zone; ephemeral
Av	Clay, silt, sand, and gravel in alluvial fans
Ay	Sand, silt, and clay in localized depressions within eolian sandplain

Lacustrine units

L	Lake and lacustrine deposits: undifferentiated
Ld	Sand, silt, and gypsum in dunes adjacent to and within playa lakes
Lg	Silt, sand, and gravel in halophyte flats adjacent to playa lakes
Lgeg	Lithified and unconsolidated gypsum and clay, in locally well-bedded deposits fringing salt lakes
Lm	Mixed dune, evaporite, and alluvial deposits, typically adjacent to playa lakes
Lp	Saline and gypsiferous evaporite deposits, clay, silt, and sand in playa deposits
Ls	Saline lake, rimmed by evaporitic gypsum and carbonate deposits

Eolian units

El	Unconsolidated to consolidated, quartz-dominated eolian sand in longitudinal dunefield
En	Net-like dunefield

Sandplain unit

S	Residual and eolian sand with minor silt and clay; low vegetated dunes locally common

NEOGENE

Residual or relict units

Rcqs	In situ weathered sedimentary rocks; quartz-rich
Rcws	Residual sedimentary rocks; weathered
Rcfbg	Ferruginous duricrust, massive to rubbly; derived from granitic rocks; includes iron-cemented reworked product
Rcfs	Ferruginous duricrust and iron-cemented products derived from sedimentary rocks
Rckk	Calcrete; undifferentiated
Rckkg	Groundwater calcrete; locally forms low mounds; nodular to massive; commonly with alternating layers of carbonate and chalcedony
Rczz	Silcrete; residual or relict siliceous duricrust
Rcf	Transported ferruginous duricrust; iron-cemented sand and gravel

PALEOZOIC

CARBONIFEROUS – PERMIAN

Fitzroy Movement (237–199 Ma)

CPpa-sepg — PATERSON FORMATION: conglomerate (including diamictite), sandstone, and siltstone; largely glacigene (line unit in section only) — Canning Basin

ORDOVICIAN

Alice Springs Orogeny (450–295 Ma)

OLAkla — Ordovician sedimentary rocks, Amadeus Basin: pink to pale-grey, coarse-grained calcarenite, and rare sandstone; abundant fossil fragments — Amadeus Basin (Phase 2)

NEOPROTEROZOIC

CAMBRIAN

Petermann Orogeny (580–520 Ma)

Ꞓmu-sm — MU FORMATION: cobble to boulder conglomerate with predominantly sedimentary clasts and ferruginous, friable, sandy matrix; local red-brown sandstone and pebbly sandstone, and minor siltstone (inferred to have been deposited during the Petermann Orogeny)

ꞒꞒma-ss — MAURICE FORMATION: fine- to medium-grained, cross-bedded, poorly-sorted, friable, lithic, feldspathic and micaceous red-brown sandstone; micaceous red-brown siltstone (inferred to have been deposited during the Petermann Orogeny)

EDIACARAN – CAMBRIAN

ꞒꞒfd-sg — SIR FREDERICK CONGLOMERATE: cobble to boulder conglomerate with predominantly sedimentary clasts and friable, sandy matrix; interbedded unit of red-brown, poorly-sorted, lithic sandstone in Mu Hills (inferred to have been deposited during the Petermann Orogeny)

ꞒꞒel-st — ELLIS SANDSTONE: medium-grained, cross-bedded, white to pale-brown sandstone and pebbly sandstone (inferred to have been deposited during the Petermann Orogeny)

ꞒꞒcn-ss — CARNEGIE FORMATION: fine- to medium-grained, cross-bedded, poorly-sorted, lithic and feldspathic red-brown sandstone; poorly-exposed, micaceous red-brown siltstone (inferred to have been deposited during the Petermann Orogeny)

EDIACARAN

Ꞓju-xk-s — JULIE FORMATION: limestone, dolomite, siltstone, and sandstone; stromatolitic; common diagenetic silicification in carbonates

Ꞓpk-sl — PERTATATAKA FORMATION: siltstone, shale, and minor sandstone; very poorly exposed

Ꞓoy-se — OLYMPIC FORMATION: diamictite, sandstone, conglomerate, and siltstone; large erratics; common glacially faceted and striated clasts

CRYOGENIAN

c. 657 Ma[1]

Ꞓal-sk — ARALKA FORMATION: siltstone, shale, limestone, dolomite, and minor sandstone; stromatolitic

Ꞓay-se — AREYONGA FORMATION: diamictite and conglomerate; rare glacially faceted and striated clasts; very poorly exposed

TONIAN

Ꞓwr-kt — WALLARA FORMATION: dolomite, oolitic dolomite, sandstone, and siltstone; stromatolitic; commonly silicified to chert and sandy chert at surface

ꞒbNA — Amadeus Basin mafic unit: mafic rock within the Amadeus Basin; unexposed, interpreted from geophysical data (section only)

<896 Ma[2]

Bitter Springs Group

ꞒBS-xk-s — Dolomite, stromatolitic dolomite, siltstone, and sandstone; evaporites in subsurface

<975 Ma

Ꞓht-stq — HEAVITREE FORMATION: quartz sandstone and quartzite; lesser siltstone and pebbly conglomerate

Amadeus Basin (Phase 1) — CENTRALIAN SUPERBASIN

MESOPROTEROZOIC

c. 1039 Ma
c. 1041 Ma
c. 1044 Ma

Tjauwata Group

ꞒTJ-xs-fr — Siliciclastic sedimentary and volcanic rocks; locally metamorphosed (section only) — Bentley Basin

zq — Quartz vein or pod; massive, crystalline, or brecciated; age uncertain

PROTEROZOIC

PALEOPROTEROZOIC

Chewings Orogeny (1590–1570 Ma)

Liebig Orogeny (1640–1630 Ma)

Waluwiya Suite

ꞒWUmgg — Foliated hornblende metagranodiorite to quartz metadiorite; may include two-pyroxene metagranite or migmatitc felsic rocks

c. 1640 Ma

Ꞓwe-gm — MOUNT WEBB GRANITE: metamonzogranite; local metasyenogranite, metagranodiorite, and metatonalite

c. 1650 Ma

Ꞓwu-mfc — WALUNGURRU VOLCANICS: metadacite and metarhyodacite; may include intermediate to mafic metavolcanic rocks

c. 1691 Ma

Ꞓit-mgn — ININTI GRANITE: foliated, porphyritic granitic gneiss; may include syenogranitic gneiss with metasedimentary xenoliths

Ꞓxmr-mwWR — Warumpi Province metamorphic unit: undivided granitic gneiss and metamorphosed, felsic to mafic volcanic and volcaniclastic rocks (section only)

Warumpi Province — Aruna Orogen — NORTH AUSTRALIAN CRATON

Yambah Event (1780–1770 Ma)

ꞒgAI — Aileron Province granitic unit: granitic rock

Stafford Event (1810–1790 Ma)

<1838 Ma

Ꞓlr-mhs — LANDER ROCK FORMATION: interbedded psammitic and pelitic schist; quartz–muscovite schist; may include metamorphosed banded iron-formation and metavolcanic rocks

Ꞓxmd-mrAI — Aileron Province metamorphic unit: undivided metasedimentary and meta-igneous rocks (section only)

Aileron Province