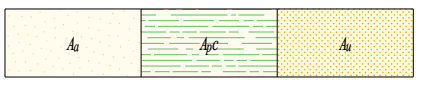
PHANEROZOIC

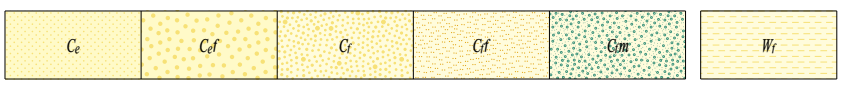
CENOZOIC

QUATERNARY



Alluvial units

Aa	Alluvial plain
ApC	Claypan; locally with salt efflorescences
Au	Superficial channel

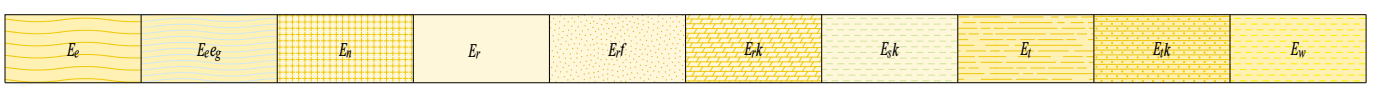


Colluvial units

Ce	Pediment at foot of breakaway; typically with outcrop of saprolite, quartz veins, and ferruginous material
Cef	Pediment at foot of breakaway; dominated by ferruginous lag
Cf	Colluvium
Cfl	Colluvium; dominantly ferruginous materials
Cfm	Colluvium; dominantly ferromagnesian materials

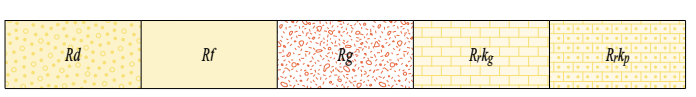
Sheetwash units

Wf	Sheetwash fan; very gently inclined landform (< 1° slope); extremely low relief



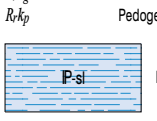
Eolian units

Ee	Sand dune
EeEg	Fringing deposit around claypan; massive, powdery, gypsiferous material
En	Net-like dunefield
Er	Eolian sandplain
Erf	Eolian sandplain; relatively abundant fine-grained ferruginous pisoid lag
ErK	Eolian sandplain; subsurface calcrete
EsK	Eolian sandplain overlying alluvial–playa plain; subsurface calcrete and abundant m-scale calcrete ridges and mounds
Et	Eolian veneer over alluvium and/or colluvium
EtK	Eolian veneer over alluvium and/or colluvium; subsurface calcrete
Ew	Swale



Residual or relict units

Rd	Residual soils overlying saprolite and ferruginous material; locally with pedogenic calcrete
Rf	Residual or relict ferruginous materials; ferruginous and ferruginized saprolite; ferruginous duricrust; also includes transported material; cemented or uncemented ferruginous gravel
Rg	Saprolite derived from felsic rock
RrKg	Groundwater calcrete; locally forms low mounds; nodular to massive; commonly with alternating layers of carbonate and chalcedony
RrKp	Pedogenic calcrete; nodular to massive

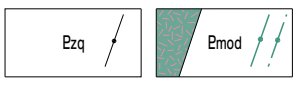


Mudstone; age unknown, presumed Phanerozoic

Petermann Orogeny (*c.* 570–530 Ma[1])

PROTEROZOIC

NEOPROTEROZOIC



Pzq	Massive, coarse-grained vein quartz
Pmod	Metadolerite and dolerite of various ages; typically ophitic to subophitic textured; locally with garnet coronas around pyroxene; interpreted from aeromagnetic data where dashed

Mylonite and blastomylonite; unassigned; predominantly felsic and locally garnet-bearing

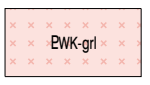
MUSGRAVE PROVINCE

Giles Event (*c.* 1082–1060 Ma [1 2 3])

1075–1060 Ma

Warakurna Supersuite

Giles Suite



Fine- to medium-grained, porphyritic to seriate-textured syenogranite; leucocratic but typically contains mafic xenoliths; locally abundant K-feldspar phenocrysts up to 1 cm; rare rapakivi texture

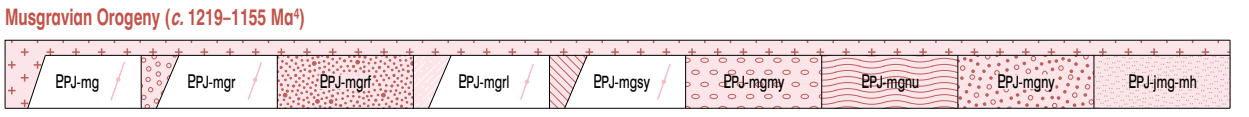
PWKg2-xog-g	Gabbro; ophitic to subophitic texture; variably mixed and mingled with leucogranite; locally foliated and mylonitic (Diagrammatic Section only)
PWKg2-ogz	Massive, weakly metamorphosed gabbro; well-developed ophitic to subophitic texture with oikocrysts up to 1 cm; locally epidotized and cut by abundant quartz and pegmatite veins
PWKg2-moag	Amphibolite after gabbro; garnet bearing
PWKg2-mom	Coarse- to medium-grained metagabbronorite; orthopyroxene–clinopyroxene and labradorite (antiperthite, where metamorphosed); locally minor sulfide disseminations

PmofMU	Massive, fine- to coarse-grained, metamorphosed anorthosite; dark weathering
PmogMU	Metagabbro; typically granoblastic with pyroxene aggregates, and garnet coronas on mafic minerals

Musgravian Orogeny (*c.* 1219–1155 Ma[4])

Pitjantjatjara Supersuite

Mirturtu Monzogranite

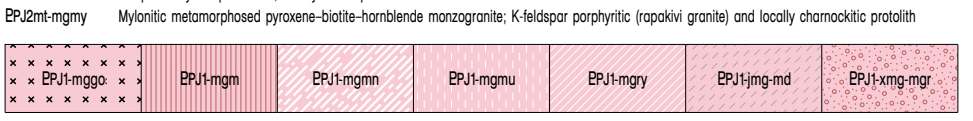


PPJ-mg	Metagranite and gneiss
PPJ-mgr	Hornblende–biotite–pyroxene metasyenogranite and lesser pyroxene–biotite–hornblende metamonzogranite; typically with garnet coronas around mafic minerals; seriate to porphyritic; rounded K-feldspar phenocrysts up to 5 cm; commonly with rapakivi texture
PPJ-mgrf	Porphyritic metasyenogranite to metamonzogranite; abundant euhedral K-feldspar phenocrysts up to 2 cm; locally relict flow texture
PPJ-mgrl	Moderately foliated, medium- to coarse-grained leucocratic syenogranite; irregular quartz blebs up to 2 cm in a feldspathic groundmass
PPJ-mgsy	Mylonitic and blastomylonitic, seriate to porphyritic granitic rock
PPJ-mgmy	Mylonitic medium-grained porphyritic metamonzogranite; K-feldspar phenocrysts to 2 cm
PPJ-mgnu	Granitic gneiss; weakly to moderately banded; typically augen-bearing; locally mylonitic
PPJ-mgny	Mylonitic granitic gneiss; typically augen-bearing
PPJ-jmg-mh	Weakly to strongly foliated, medium- to coarse-grained, equigranular metamorphosed leucosyenogranite; locally contains rounded garnet up to 2 cm; rafts of metatexitic psammite and pelite

PPJ-mwo	Fine- to medium-grained clinopyroxene–garnet mafic granulite; massive to weakly banded; locally shows mm-scale metamorphic mineralogical banding
PPJ-mwog	Medium-grained clinopyroxene–garnet mafic granulite; massive to weakly banded; locally shows cm- to m-scale mineralogical banding, possibly primary layering; weakly to moderately migmatitic
PPJ-mwol	Medium-grained, leucocratic clinopyroxene–orthopyroxene mafic granulite (granulite after leucogabbro)
PPJ-xmwo-mg	Medium-grained, mesocratic to leucocratic clinopyroxene–orthopyroxene mafic granulite interleaved with weakly to strongly foliated and banded monzogranitic gneiss; locally migmatitic

Late Pitjantjatjara Supersuite (*c.* **1190–1155 Ma)**

PPJ2-mge	Fine- to medium-grained, massive to weakly banded granofels and metamorphosed schlieric leucogranite; typically <5% mafic minerals; seriate to K-feldspar porphyritic
PPJ2um-mg	**Umutju Granite:** medium- to coarse-grained hornblende–pyroxene(–garnet) granite; metamorphosed
PPJ2mt-mggu	Hornblende–garnet granodioritic augen gneiss; typically strongly foliated to blastomylonitic; locally composite gneiss including interleaves and inclusions derived from the **Birksgate Metamorphics**
PPJ2mt-mgmo	Pyroxene–biotite–hornblende metamonzogranite and lesser metagranodiorite to quartz monzodiorite; locally charnockitic; typically with garnet coronas around mafic minerals; seriate to porphyritic with tabular to rounded K-feldspar phenocrysts up to 5 cm; locally with rapakivi textures
PPJ2mt-mgmy	Mylonitic metamorphosed pyroxene–biotite–hornblende monzogranite; K-feldspar porphyritic (rapakivi granite) and locally charnockitic protolith



Early Pitjantjatjara Supersuite (*c.* **1219–1190 Ma)**

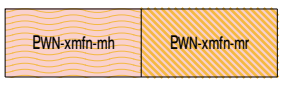
PPJ1-mggo	Pyroxene metagranodiorite to metamorphosed quartz monzodiorite; commonly charnockitic; garnet coronas around mafic minerals; subhedral dark-grey K-feldspar phenocrysts up to 3 cm
PPJ1-mgm	Metamonzogranite; weakly to strongly foliated and banded; locally gneissic; commonly a composite rock including remnants of older granulitic gneiss; locally migmatitic
PPJ1-mgmn	Strongly foliated to gneissic, porphyritic leucogranite; locally migmatitic and intruded by schlieric leucogranite; K-feldspar phenocrysts up to 2 cm; locally mylonitic
PPJ1-mgmu	Weakly to strongly foliated, porphyritic, leucocratic clinopyroxene–orthopyroxene–hornblende metamonzogranite; K-feldspar phenocrysts to 2 cm; locally mylonitic
PPJ1-mgry	Mylonitic, medium- to coarse-grained, leucocratic metamorphosed syenogranite; quartz ribbons up to 2 cm in a feldspathic groundmass
PPJ1-jmg-md	Strongly foliated to gneissic, porphyritic monzogranite with schlieren, rafts, and screens of metasedimentary rock
PPJ1-xmg-mgr	Seriate to porphyritic pyroxene–biotite–hornblende metamonzogranite; interleaved and mingled with metasyenogranite to metamonzogranite; locally relict flow texture

MESOPROTEROZOIC

Mount West Orogeny (*c.* 1336–1293 Ma[5])

1336–1293 Ma

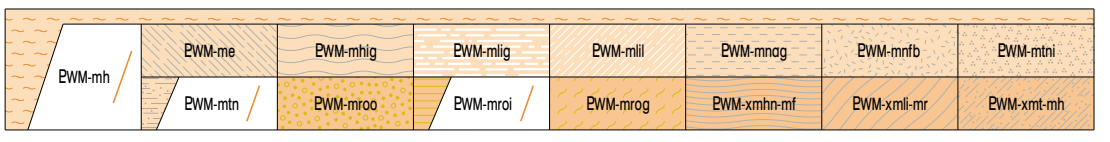
Wankanki Supersuite



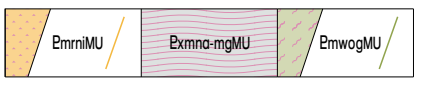
PWN-xmfn-mh	Composite gneiss comprising felsic volcanic and volcaniclastic units interlayered on a cm- to m-scale with psammite, garnetiferous pelite, and rare calc-silicate rocks; typically metatexitic and cut by locally abundant, variably transposed leucogranite veins; locally epidotized along faults
PWN-xmfn-mr	Composite gneiss comprising leucocratic felsic volcanic and volcaniclastic units interlayered on a cm- to m-scale with orthopyroxene–plagioclase(–quartz) acid to intermediate granulite; locally metatexitic and cut by variably transposed leucogranite veins

1360–1293 Ma

Wirku Metamorphics



PWM-mh	**Wirku Metamorphics:** undivided weakly to strongly banded gneiss; typically quartzofeldspathic but includes amphibolitic rocks; mostly of sedimentary or volcanosedimentary protolith but possibly includes felsic to mafic intrusive protoliths
PWM-me	Fine- to medium-grained, massive to weakly layered granofels; weakly migmatitic
PWM-mhig	Metatexitic gneiss comprising cm- to m-thick layers of garnet–orthopyroxene–biotite(–cordierite–hercynite–hornblende) pelite and psammite with rare quartzite, feldspathic psammite, and calc-silicate layers; cut by locally abundant, variably transposed leucocratic veins
PWM-mlig	Diatexitic, coarse-grained garnet–orthopyroxene–biotite(–cordierite) pelite; leucocratic; rounded garnet porphyroblasts to 2 cm; migmatitic textures range from stromatic to nebulitic to raft migmatite
PWM-mlil	Diatexitic, coarse-grained garnet–sillimanite–orthopyroxene–biotite(–cordierite) pelite; leucocratic; rounded garnet porphyroblasts to 2 cm; migmatitic textures range from stromatic to nebulitic to raft migmatite
PWM-mnag	Medium-grained banded gneiss; quartz- and plagioclase-rich bands alternating with cm-scale bands rich in hornblende–clinopyroxene–garnet–biotite or in clinopyroxene–orthopyroxene–garnet–biotite; protolith unknown
PWM-mnfb	Staurolite–biotite–garnet–hornblende quartzofeldspathic gneiss
PWM-mtni	Strongly migmatitic quartzofeldspathic granulitic paragneiss; includes diatexite
PWM-mtn	Fine- to medium-grained quartzofeldspathic gneiss; laminated to banded on a mm- to cm-scale and interlayered on a cm- to m-scale; locally with angular quartz grains up to 1 cm; typically metatexitic but locally diatexitic; locally intruded at various scales by several generations of granite
PWM-mroo	Medium-grained orthopyroxene–plagioclase(–quartz) acid to intermediate granulite; locally garnetiferous; granoblastic texture; massive to moderately foliated
PWM-mroi	Medium-grained orthopyroxene–plagioclase(–quartz) acid to intermediate granulite gneiss; laminated to banded on a mm- to cm-scale and interlayered with leucogranite veins on a cm- to m-scale; typically metatexitic and cut by locally abundant, variably transposed leucogranite veins
PWM-mrog	Medium-grained orthopyroxene–plagioclase–garnet–quartz acid to intermediate granulite gneiss; laminated to banded on a mm- to cm-scale and interlayered with leucogranite veins on a cm- to m-scale; typically metatexitic and cut by locally abundant, variably transposed leucogranite veins
PWM-xmhn-mf	Composite gneiss comprising garnet–orthopyroxene–biotite(–cordierite–hercynite–hornblende) pelite and psammite interlayered on a cm- to m-scale with lesser metamorphosed felsic volcanic and volcaniclastic units; typically meattexitic and cut by locally abundant, variably transposed leucogranite veins
PWM-xmli-mr	Composite gneiss comprising diatexitic, coarse-grained garnet–orthopyroxene–biotite(–cordierite) pelite interlayered on a m-scale with lesser medium-grained orthopyroxene–plagioclase(–quartz) acid to intermediate granulite gneiss; cut by locally abundant, variably transposed leucogranite veins
PWM-xmt-mh	Fine- to medium-grained, laminated feldspathic psammite interlayered with garnet–orthopyroxene–biotite(–cordierite–hercynite–hornblende) pelite and psammite; local orthopyroxene–plagioclase(–quartz) acid to intermediate granulite and calc-silicate interlayers; typically metatexitic



PmrniMU	Felsic composite granulitic gneiss; migmatitic
Pxmna-mgMU	Amphibolitic gneiss interleaved with migmatitic granitic gneiss; locally mylonitic
PmwogMU	Medium-grained clinopyroxene–orthopyroxene–garnet mafic granulite; massive to weakly banded; locally shows cm- to m-scale mineralogical banding, possibly primary layering; weakly to moderately migmatitic

MUSGRAVE PROVINCE