

PHANEROZOIC

CAINOZOIC

Unassigned



**Sheetwash units**

*W* Sandy and clayey distal sheetwash and slope deposits, no clearly defined drainage  
*Wf* Ferruginous sand and silt

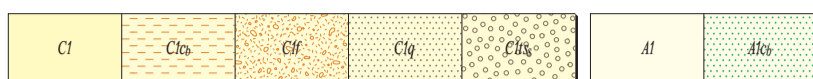
**Alluvial unit**

*A* Silt, sand, and gravel in active drainage channels and adjacent to floodplains; includes ferruginous deposits

**Lacustrine unit**

*L* Unconsolidated, fine-grained deposits in claypans, perennial lakes, and swamps; low-lying areas with internal drainage; usually thickly vegetated

QUATERNARY



**Colluvial units, third generation**

*C1* Quartz and rock fragments in an unconsolidated silt and sand matrix; includes ferruginous deposits  
*C1cb* Swelling clay (gilgai) and rock fragments, mostly developed over dolerite  
*C1f* Unconsolidated ferruginous rubble and scree  
*C1q* Quartz fragments in an unconsolidated silt and sand matrix, derived from quartz veins and quartzose rock  
*C1ts* Sandstone fragments in a silt and sand matrix, derived from sandstone

**Alluvial units, third generation**

*A1* Unconsolidated silt, sand, and gravel in active drainage channels; includes ferruginous deposits  
*A1cb* Swelling clay (gilgai) developed on alluvial flats



**Colluvial units second generation**

*C2* Quartz and rock fragments in a partly consolidated silt and sand matrix

**Alluvial unit, second generation**

*A2* Partly consolidated silt, sand, and gravel; partly dissected by present-day drainage



**Colluvial unit first generation**

*C3* Quartz and rock fragments in a weakly cemented and compacted silt and sand matrix; deeply dissected valley-fill deposits

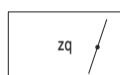
**Alluvial unit, first generation**

*A3* Weakly cemented and compacted silt, sand, and gravel; deeply dissected valley-fill deposits



**Residual or relict units**

*Rf* Ferruginous deposits, including lateritic, ferruginous, and manganese duricrust  
*Rk* Calcrete, developed in and adjacent to alluvial channels; locally silicified; dissected by major present-day drainage lines  
*Rz* Silcrete and brecciated siliceous caprock  
*Rzi* Ferruginous silcrete and brecciated siliceous caprock



Quartz veins, of various ages



Dolerite dykes, sills, and small intrusions, of various ages; one suite dated at c. 755 Ma<sup>1</sup>; dashed where interpreted from aeromagnetic data

**Edmundian Orogeny (1070–755 Ma<sup>2</sup>)**

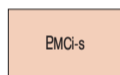


Dolerite and gabbro sills intruded into **Edmund and Collier Groups**

c. 1070 Ma<sup>3,4</sup>

MESOPROTEROZOIC

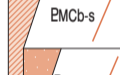
Collier Group



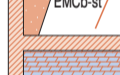
**ILGARARI FORMATION:** siltstone, mudstone, and fine-grained sandstone



**CALYIE FORMATION:** quartz sandstone, siltstone, mudstone, conglomerate, and dolostone



**BACKDOOR FORMATION:** siltstone, mudstone, and thin- to thick-bedded sandstone; minor chert and dolostone



Thin- to thick-bedded sandstone and siltstone



Thin- to thick-bedded dololite, dolomitic siltstone, dolarenite, and siltstone



Dolerite and gabbro sills intruded into **Edmund Group**; oldest suite (*Eod1*) dated at c. 1465 Ma<sup>3,4</sup> and youngest suite (*Eod2*) dated at c. 1070 Ma<sup>3,4</sup>

COLLIER BASIN

PROTEROZOIC

PALAEOPROTEROZOIC – MESOPROTEROZOIC

Bangemall Supergroup

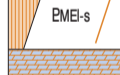
Edmund Group



**COODARDOO FORMATION:** thin to very thick bedded lithic quartz sandstone; minor siltstone and mudstone



**Curran Member:** siltstone and fine- to coarse-grained sandstone; locally intruded by dolerite sills; has gradational contacts with underlying **ULLAWARRA FORMATION** and overlying **COODARDOO FORMATION**



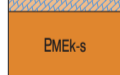
**ULLAWARRA FORMATION:** siltstone, fine-grained sandstone, dolostone, and chert; intruded by numerous dolerite sills (*Eod1,2*)



**DEVIL CREEK FORMATION:** laminated dolostone and dolomitic siltstone; local thick-bedded dolerite



**DISCOVERY FORMATION:** massive or laminated chert, and silicified mudstone, and siltstone; local silicified sandstone and conglomerate



**MUNTHARRA FORMATION:** thin- to thick-bedded dolostone and stromatolitic dolostone, and sandstone and siltstone



**KIANGI CREEK FORMATION:** siltstone, mudstone, and thin to very thick bedded quartz sandstone; minor dolostone and conglomerate



Medium to very thick bedded quartz sandstone and siltstone



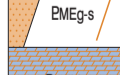
Dolostone, siltstone, and sandstone



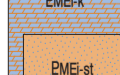
Siltstone; minor fine-grained sandstone



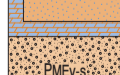
**CHEYNE SPRINGS FORMATION:** dololite, dolarenite, dolorite, mudstone, siltstone, and minor sandstone



**BLUE BILLY FORMATION:** siltstone and mudstone; minor thin- to thick-bedded sandstone; locally sulfidic



**GOORAGOORA FORMATION:** fine- to coarse-grained sandstone and siltstone; minor conglomerate, dolostone, and dolomitic siltstone



**IRREGULLY FORMATION:** stromatolitic and non-stromatolitic dolostone, dolomitic siltstone, quartz sandstone, and conglomerate



Sandstone, conglomerate, siltstone, and dolostone



**YILGATHERRA FORMATION:** sandstone, siltstone, conglomerate, and dolostone

c. 1620 Ma<sup>5</sup>

**Capricorn Orogeny (1805–1780 Ma<sup>6</sup>)**



**ASHBURTON FORMATION**

*EWa-s* Siltstone, thin to very thick bedded lithic quartz sandstone, pebble to cobble conglomerate, and felsic volcanic rock; lower greenschist facies  
*EWa-mh* Interbedded psammite and pelite; includes quartz-muscovite-biotite-cordierite-andalusite-garnet schist and quartz-muscovite-biotite-staurolite schist; upper greenschist to amphibolite facies (Section only)

Wyloo Group

1829–1806 Ma<sup>7,8,9</sup>

ASHBURTON BASIN