

**Coluvial units**

C Coluvium derived from different rock types, includes gravel, sand and silt  
 Cc1 Colluvium from chert, ferruginous chert and banded iron formation, locally cemented  
 Cc2 Colluvium from chert and minor banded iron formation, locally cemented  
 Cc3 Colluvium from banded iron formation and chert, locally cemented  
 Cf Ferruginous gravel and weathered ferruginous duricrust  
 Cq Quartzite debris

**Sheetwash units**

Sr Clay, silt and sand in relative flow, locally ferruginous gravel  
 Sg Clay, silt and sand with abundant ferruginous grit  
 Sd Clay, silt and sand, commonly derived from granitic rock  
 Sb Clay, silt and sand with abundant calcareous nodules

**Alluvial units**

A Clay, silt, sand and gravel in channels and on floodplains  
 A1 Clay and silt in valleys  
 A2 Caliche and calcareous-cemented cluvium in fluvial channels

**Lacustrine units**

L1 Dune and lake deposits, active systems within and adjacent to playa lakes, non-vegetated or sparsely vegetated  
 L2 Mixed dunes, embayments and alluvial deposits, typically adjacent to playa lakes  
 L3 Sparse and discontinuous embayments, clay, silt, and sand in playa lakes

**Lacustrine unit**

Ld Stabilised dunes within and adjacent to playa lakes, typically vegetated

**Sandplain units**

S1 Residual and saline sand with minor silt and clay, low vegetated dunes locally common  
 S2 Sand and playa terraces, dunes dominant

**Residual or relict units**

Rf Ferruginous duricrust, massive to tabular, includes iron-cemented weathered products  
 Rk Ferruginous duricrust, massive to tabular, derived from banded iron formation and ferruginous chert  
 Rl Siltstone  
 Rg Quartzite/epidiorite sand, commonly over granitic rock  
 Rg1 Quartzite/epidiorite sand and minor siliceous duricrust over granite, sparse granitic outcrop, includes modified and weathered ends of weathering profile  
 Rg2 Yellow sand with minor quartzite debris, ferruginous siliceous silt and clay, common on low dunes associated with weathered granite  
 Rg3 Unoxidised residual or relict material, mostly ferruginous and siliceous duricrust, minor dolomite and kaolinitic rock  
 Rg4 Siliceous residual granitic rock  
 Rl Residual caliche, includes weathered carbonate products

**Proterozoic**

Bsd Dolerite dyke, sill or plug  
 Zq Quartz vein or post massive, crystalline, or brecciated, age uncertain

**Archean**

Amg1m1 Foliated metagranite interbedded with meta banded iron formation and/or metabasalt, with subordinate para-orthogneiss and metasediments  
 Amg1m2 Meta banded metagranite  
 Amg1m3 Foliated meta banded metagranite, minor metagranitoid, metaporphyrane, and paragneiss, free to coarse grained, locally gneissic  
 Amg1m4 Foliated metaporphyrane, locally gneissic, may include orthopyroxene-bearing, includes deeply weathered rock  
 Amg1m5 Foliated and gneissic metagranite, moderately to strongly foliated metagranite with local gneissic or migmatitic component  
 Amg1m6 Granitic rock interbedded with subordinate mafic rock and basalt, metaporphyrane  
 Amg1m7 Basalt metaporphyrane, on local basaltic, minor granitoid and paragneiss, free to coarse grained, equivalent to parphyritic, massive to weakly foliated, metaporphyrane  
 Amg1m8 Polyphytic metaporphyrane, metaporphyrane, includes dykes and sills  
 Amg1m9 Polyphytic metaporphyrane with subordinate mafic rock  
 Amg1m10 Granitic rocks, unfoliated, metaporphyrane, includes deeply weathered rock  
 Amg1m11 Metagranite metaporphyrane, locally siliceous, includes deeply weathered rocks

Amg1m12 Foliated meta metaporphyrane rock  
 Amg1m13 Banded chert and ferruginous banded chert, includes minor banded iron formation and minor quartzite, metaporphyrane  
 Amg1m14 Banded iron formation and local gabbro, includes minor banded chert, metaporphyrane  
 Amg1m15 Banded iron formation and chert, metaporphyrane

Amg1m16 Quartzite/epidiorite foliated metaporphyrane rock derived from felsic volcanic or orthogneissic protolith, typically deeply weathered

Amg1m17 Basalt, massive to weakly foliated, metaporphyrane, locally banded near contact with granitic rock  
 Amg1m18 Fine to very fine grained mafic rock, unfoliated, metaporphyrane, commonly deeply weathered  
 Amg1m19 Pyroxene spinel mafic rock, locally variolitic, metaporphyrane

Amg1m20 Tsoi-kameli-chlorite schist (subvolcanic only)

Amg1m21 Fine to very fine grained mafic rock, unfoliated, metaporphyrane, commonly deeply weathered (subvolcanic and cross section)

Amg1m22 Stole with minor sillstone, metaporphyrane, includes local micaceous schist  
 Amg1m23 Sedimentary rock, unfoliated, includes sandstone, siltstone, shale and chert, metaporphyrane, commonly deeply weathered (subvolcanic only)  
 Amg1m24 Ferruginous sedimentary rock, includes shale, siltstone, and banded iron formation, metaporphyrane, deeply weathered and ferruginous  
 Amg1m25 Banded to massive chert and ferruginous chert, includes minor banded iron formation and granitic metaporphyrane  
 Amg1m26 Banded iron formation and local gabbro, includes minor banded chert, metaporphyrane  
 Amg1m27 Banded iron formation and chert, metaporphyrane

Amg1m28 Gabbro and minor quartz gabbro, metaporphyrane

Amg1m29 Fine to very fine grained mafic rock, unfoliated, commonly deeply weathered  
 Amg1m30 Basalt and minor banded iron formation interbedded with granite, metaporphyrane, commonly weathered  
 Amg1m31 Basalt interbedded with fine to medium grained granitic metaporphyrane  
 Amg1m32 Fine grained basaltic volcanic ultramylonite, well bedded, metaporphyrane  
 Amg1m33 Volcanic basalt, metaporphyrane  
 Amg1m34 Fine to very fine grained mafic rock, unfoliated, metaporphyrane, commonly deeply weathered  
 Amg1m35 Pyroxene spinel mafic rock, locally variolitic, metaporphyrane

Amg1m36 Meta ultramafic rock, unfoliated, typically deeply weathered  
 Amg1m37 Metabasaltic rock with minor dolomite spinel mafic rock, minor meta spinel mafic rock  
 Amg1m38 Chlorite/sericite-illite schist  
 Amg1m39 Tsoi-kameli-chlorite schist and chlorite/sericite schist, includes minor meta kerolitic basalt  
 Amg1m40 Tsoi-kameli-chlorite schist (subvolcanic only)  
 Amg1m41 Serpentine, subordinate amphibole and mafic schist  
 Amg1m42 Pyroxene, metaporphyrane, commonly reprecipitated  
 Amg1m43 Pyroxene, medium to coarse grained, minor gabbro, metaporphyrane

**INTERPRETED BEDROCK GEOLOGY**

**Legend:**

- Bsd Dolerite dyke, sill or plug
- Zq Quartz vein
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**MINERAL OCCURRENCES**

**MINERALIZATION STYLES**

- Brecciated sedimentary and/or sedimentary breccia non-formation
- Iron

**MINERAL AND ROCK COMMODITY GROUPS**

**OPERATING STATUS AND SITE IDENTIFICATION NUMBER**

Mineral occurrence or prospect e.g. 22010

**MINERAL AND ROCK COMMODITIES**

1001 Fe

Mineral occurrences and numbers are based on the GDA MARM database.

**SHEET INDEX**

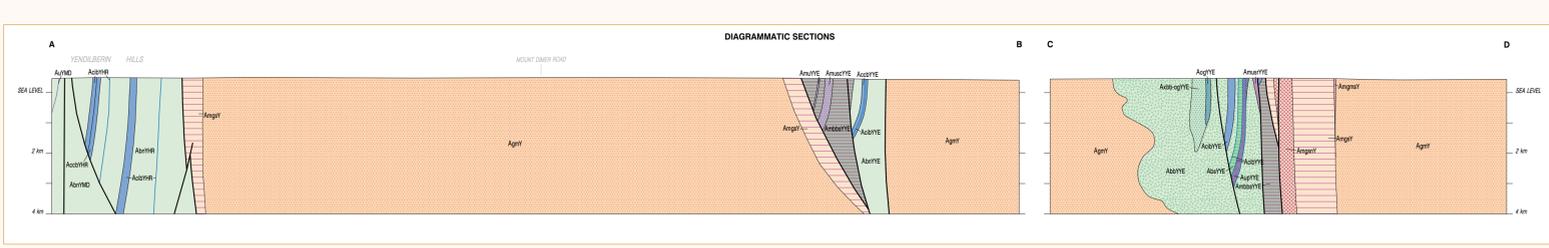
| ROW | COLUMN | SHEET NUMBER | SCALE     | DATE |
|-----|--------|--------------|-----------|------|
| 100 | 100    | 2937         | 1:100,000 | 2008 |
| 101 | 100    | 2938         | 1:100,000 | 2008 |
| 102 | 100    | 2939         | 1:100,000 | 2008 |
| 103 | 100    | 2940         | 1:100,000 | 2008 |
| 104 | 100    | 2941         | 1:100,000 | 2008 |
| 105 | 100    | 2942         | 1:100,000 | 2008 |
| 106 | 100    | 2943         | 1:100,000 | 2008 |
| 107 | 100    | 2944         | 1:100,000 | 2008 |
| 108 | 100    | 2945         | 1:100,000 | 2008 |
| 109 | 100    | 2946         | 1:100,000 | 2008 |
| 110 | 100    | 2947         | 1:100,000 | 2008 |
| 111 | 100    | 2948         | 1:100,000 | 2008 |
| 112 | 100    | 2949         | 1:100,000 | 2008 |
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| 114 | 100    | 2951         | 1:100,000 | 2008 |
| 115 | 100    | 2952         | 1:100,000 | 2008 |
| 116 | 100    | 2953         | 1:100,000 | 2008 |
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| 119 | 100    | 2956         | 1:100,000 | 2008 |
| 120 | 100    | 2957         | 1:100,000 | 2008 |

1:100,000 maps shown in block

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**Geological boundary**

- Fault or suture
- unconformity
- conformity
- contact, interpreted from aeromagnetic data
- FBC showing and trace and generalized plunge direction
- syncline, concealed
- Small scale hot coal surface, showing strike and dip
- inclined
- vertical
- Small scale hot coal surface, showing trend and plunge
- unapparent
- unapparent
- Bedding, showing strike and dip
- vertical
- Metamorphic foliation, showing strike and dip
- vertical
- dip indeterminate
- dip unknown
- Delinear bedding, showing strike and dip
- vertical
- Lamination, unapparent, showing trend and plunge
- inclined

**Mineral location, showing trend and plunge**

- included
- Bedding-charge intersection lineation, showing trend and plunge
- included
- Fracture, joint, or extension vein, showing strike and dip
- vertical
- Arrepanage, fragment
- Unshaded rock
- Top
- Approximate strike
- Building
- Horizontal control, major
- Level
- Reservoir
- Spill pipe street
- Contour line, 30 metres interval
- Watercourse
- Roadway
- Sink
- Well
- Contour 3
- Mineral field boundary
- Mode ground or mining site
- Mineral occurrence or prospect
- Mineral exploration outline showing subsurface data

**Geoid convergence**

1°

**DATA DIRECTORY**

| Theme                                  | Data Source                              | Data Currency | Agency  |
|--|--|---------------|---|
| Geology                                | GDA                                      | 2008 - 2006   | Dept of Industry and Resources  |
| Structural data                        | WARRK                                    | JUNE 2008     | Dept of Industry and Resources  |
| Mineral occurrences (non-confidential) | MNEDR*                                   | JUNE 2008     | Dept of Industry and Resources  |
| Horizontal control                     | GEMMAP                                   | 2008          | Landgate  |
| Topographic noncontour                 | DEMCON                                   | 2008          | Landgate  |
| Topography                             | Landgate and GDA 1:63,000 survey         | 2008          | Landgate  |
| Contents                               | NASA SP7810 (Non Digital Elevation Data) | 2002          | Consultative Group for International Agricultural Research - Consortium for Spatial Information |

\*GDA and GDAI databases can be viewed online (www.dpi.wa.gov.au/gdaonline) or can be downloaded from the GDA Data and Software Centre (www.dpi.wa.gov.au/gdaonline)

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 Figure A, 2008, Nearanging, WA Sheet 2937, Geological Survey of Western Australia, 1:100,000 Geological Series.

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