GEOLOGICAL SURVEY OF WESTERN AUSTRALIA

BULLETIN 137 PLATE 2

MURCHISON PROVINCE

STRATIGRAPHY, STRUCTURE AND MINERALIZATION

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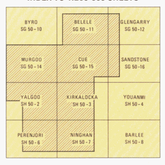
SCALE 1:500 000

5000 0 10 20 30 40 50
Metres Kilometres

Geology by K.P. Watkins and A.H. Hickman 1982-86

INDEX TO 1:250 000 SHEETS



SYMBOLS

- Boundary between lithostratigraphic units and/or granitoids
- Angular unconformity
- D_3 shear-zone or fault
- D_4 shear-zone or fault
- D_5 shear-zone or fault
- Tectonic contact between early gneiss complex and Murchison Province
- F_1 fold-axial trace
- F_2 fold-axial trace
- F_3 fold-axial trace
- Inferred position of fold-axial trace
- Antiform
- Synform
- Fold plunge
- Primary layering in supracrustal rocks
  - inclined
  - vertical
- S_1 foliation or banding
  - inclined
  - vertical
- S_2 foliation
  - inclined
  - vertical
- S_3 foliation or banding
  - inclined
  - vertical
- Trend of S_1 banding in gneiss
- Trend of S_2 foliation in granitoid or gneiss
- Trend of S_3 foliation or banding in granitoid or gneiss
- Porphyritic texture in Arm
- Highway
- Road
- Townsite — YALGOO
- Homestead — Goodardy
- Watercourse, intermittent
- Salt lake
- Mining locality — REEDY
- Mine — Rand

MINERALIZATION REFERENCE

Statistics based on 1986 figures

GOLD (Au)

Deposit size (tonnes gold, production plus resources)

- < 0.1
- 0.1-1.0
- > 1.0

Gold content indicated

Form of ore body

- Single quartz vein
- Multiple quartz veins
- Quartz stringers or stockwork
- Fault or shear-zone without major quartz veins
- Stratiform/stratabound and disseminated
- Stratiform/stratabound and massive
- Alluvial, colluvial or residual
- Unknown

Host-rock lithology (indicated by colour of outer circle or half-circle)

- Laterite and alluvium
- Felsic porphyry
- Granitoid rocks
- Banded iron-formation or chert
- Sandstone or conglomerate
- Felsic volcanics or volcanogenic sedimentary rocks
- Mafic volcanic or intrusive rocks
- Ultramafic volcanic or intrusive rocks
- Combined lithologies (example: banded iron formation and felsic porphyry)
- Unknown (if < 0.1 t Au, half-circle is not marked)

OTHER METALS

Deposit size		> 10Mt	> 0.1Mt	> 0.01Mt	> 10t	Small deposit or occurrence
★ Iron ore	Fe					
Copper-lead-zinc	Cu–Pb–Zn					
Molybdenum-tungsten	Mo–W					
Vanadium-titanium	V–Ti					
Tin-tantalum	Sn–Ta					
Lithium	Li					
Uranium	U					

Silver (Ag) occurs locally with Au, Cu, Pb, Zn
Bismuth (Bi) occurs locally with Mo and W

★ A/B/C — A = million tonnes ore, B = % Fe, C = % P_2O_5

(iron is expressed in million tonnes iron ore, and Sn-Ta is expressed in tonnes metal content, other metals are expressed in millions of tonnes metal content)

Form of ore body

- Vein
- Stockwork
- Fault or shear-zone
- Stratiform/stratabound and massive
- Unknown

INDUSTRIAL MINERALS AND PRECIOUS STONES

Deposit size		Minor deposit	Occurrence
Asbestos	Ac		
Barite	Ba		
Beryl	Be		
Crushed rock	Rc		
Emerald	Em		
Feldspar	Fs		
Gemstones (excluding Em)	Gs		
Gypsum	Gp		
Kaolin/clay	Ck		
Magnesite	Ms		
Ochre	Oc		
Talc	T		

Form of deposit

- Vein
- Multiple veins
- Fault or shear-zone
- Residual
- Unknown

EXAMPLE OF INFORMATION OBTAINABLE FROM A SYMBOL

1.0 Victory United — Gold mineralization occurs in quartz veins hosted by mafic volcanics and intrusives and felsic porphyry. Production and published resources total 1.0 tonnes gold.

STRATIGRAPHIC REFERENCE

- Ps — Proterozoic sedimentary rocks
- b — Cross-cutting mafic intrusions

MURCHISON SUPERGROUP

Mount Farmer Group

PORLELL SUBGROUP
- AFPw — WOOLGRA FORMATION
- AFPs — STOCKYARD BASALT
- AFPl — LORDY BASALT

YALGOO SUBGROUP
- AFYc — CAMBERATHUNUN FORMATION
- AFYw — WADGINGARRA BASALT
- AFq — QUINNS BASALT
- AFm — MINDOOLA FORMATION
- AFd — DALGARANGA FORMATION
- AFwc — WATTLE CREEK BASALT
- AFb — BILLABALONG BASALT
- AFc — COOCOOWILYA FORMATION
- AFs — SINGLETON BASALT
- AFo — MOUGOODERRA FORMATION

Lake Creek Group

- ALw — WINDANING FORMATION
- ALg — GABANINTHA FORMATION
- ALa — GOLCONDA FORMATION
- ALm — MURROULI BASALT

0 5km

- Abg — Gabbro sills, may be differentiated
- Asu — Unassigned units

At various stratigraphic levels

GRANITOIDS AND GNEISS

- Apfg — Post-folding granitoids — undifferentiated
- Apfg-I — Post-folding granitoids — suite I
- Apfg-II — Post-folding granitoids — suite II
- Arm — Recrystallized monzogranite
- Apbg — Pegmatite-banded gneiss
- Aegc — Early gneiss complex

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