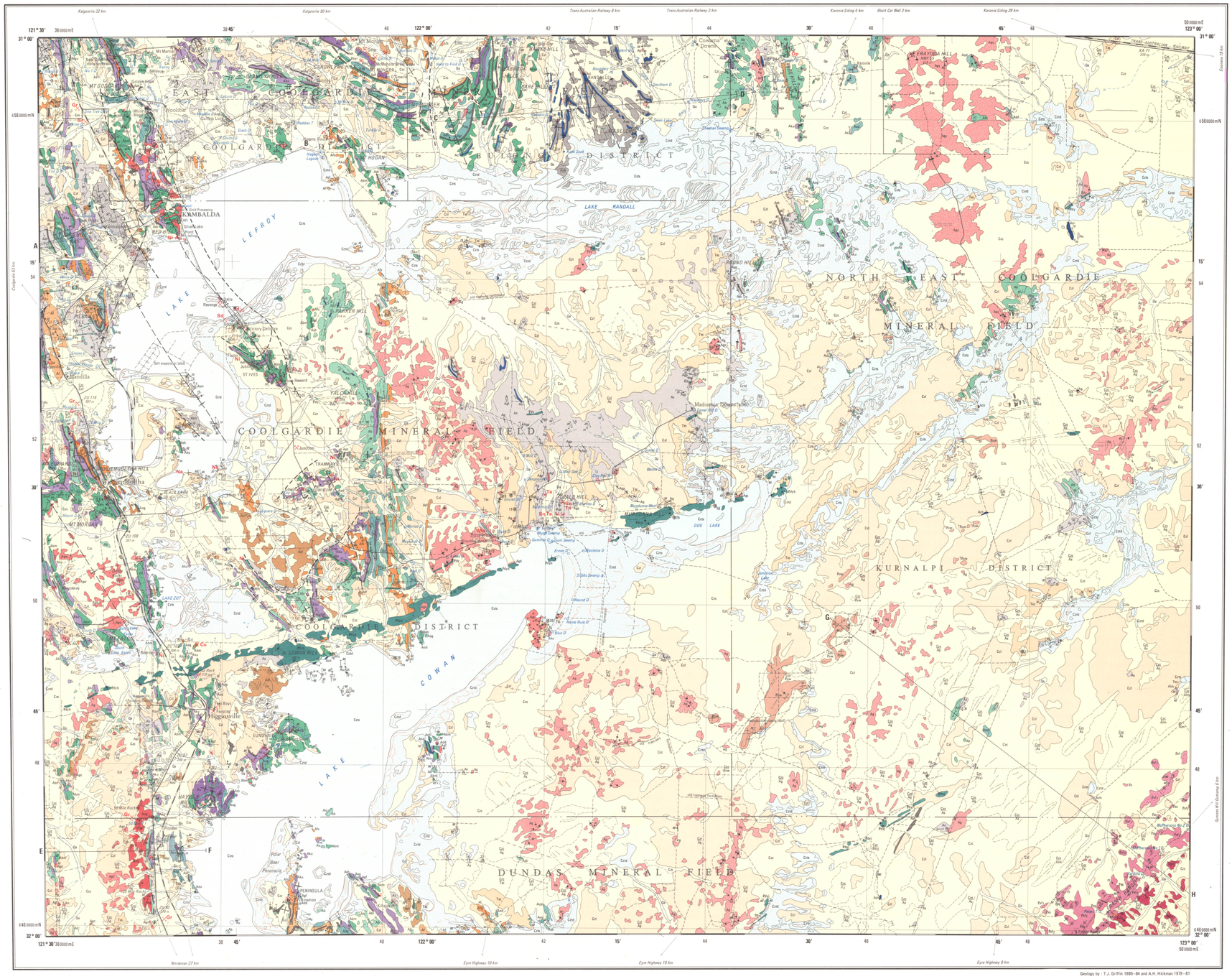
WIDGIEMOOLTHA

AUSTRALIA 1 : 250 000 GEOLOGICAL SERIES — **GEOLOGICAL SURVEY OF WESTERN AUSTRALIA** — **SHEET SH 51-14**



Geology by : T.J. Griffin 1980–84 and A.H. Hickman 1979–81

SYMBOLS

- Geological boundary
- Intergrated geological boundary
- Fault; inferred or concealed
- Shear zone
- Fold
  - anticline
  - syncline
  - overturned anticline
  - overturned syncline
  - plunge, plunge of minor fold
  - M vergence
- Bedding
  - inclined
  - vertical
  - horizontal
- Younging indicator
  - sedimentary
  - graded bedding
  - igneous pillows
  - differentiated intrusion
- Cleavage
  - inclined
  - vertical
  - strike coincident with bedding
  - with lineation
- Foliation, metamorphic
  - inclined
  - vertical
- Foliation, igneous
  - inclined
  - vertical
- Joint
  - inclined
  - vertical
- Air photo lineament
  - concealed mafic dyke
  - lithological or structural trend
- Fossil locality
  - macrofossil
  - silicified wood fossil
  - trace fossil
- Mineral field boundary
- Mineral field district boundary
- Highway with national route marker
- Formed road
- Track (many exploration and logging tracks not shown)
- Railway, with siding
- Old tramway formation
- Powerline
- Townsite gazetted
  - pop.1 000 – 10 000
  - pop.less than 1 000
- Homestead
- Building
- Locality
- Landing ground
- Microwave repeater site
- Horizontal control; major, minor
- Vertical control; height accurate
- Breakaway
- Sand dunes
- Abandoned

KAMBALDA · Widgiemooltha · Mt Monger · Kambalda West · Pioneer · ZU 120 384 m · (abd)

- Watercourse, ephemeral
- Pipeline
- Playa lake, fresh-brackish
- Dam
- Tank

ST IVES

- Mining locality
- Mine or opencut (gold unless otherwise indicated) — Fairplay
- Mine, abandoned
- Alluvial workings abandoned
- Tailings treatment plant
- Battery abandoned
- Mineral occurrence
  - Copper — Cu
  - Gold — Au
  - Molybdenum — Mo
  - Nickel — Ni
  - Opal — Op
  - Salt — Na
  - Tantalum — Ta
  - Tin — Sn
  - Pit
  - Gravel — Gr
  - Sand — Sd

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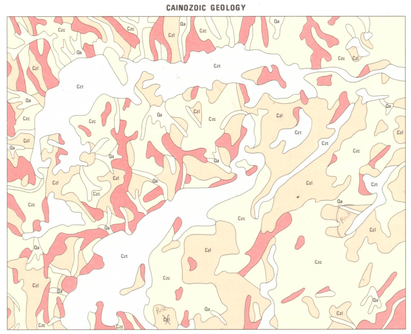
The lines indicate magnetic declination, 1988
+ means declination is east and correction must be added to compass bearing to give true bearing
– means declination is west and correction must be subtracted from compass bearing to give true bearing
Annual change is – 1° westerly

CAINOZOIC GEOLOGY



- Alluvium
- Playa deposit
- Colluvium
- Laterite
- Rock and weathered rock

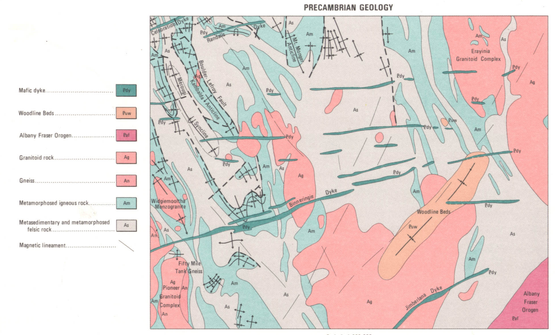
Scale 1 : 1 000 000
0 10 20 30 40 50 Kilometres

SCALE 1: 250 000

5000 Metres 0 5 10 15 20 25 30 Kilometres

TRANSVERSE MERCATOR PROJECTION
ZONE 51 AUSTRALIAN MAP GRID

PRECAMBRIAN GEOLOGY



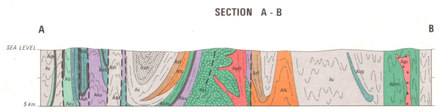
- Mafic dyke
- Woodline Beds
- Albany Fraser Orogen
- Granitoid rock
- Gneiss
- Metamorphosed igneous rock
- Metasedimentary and metamorphosed felsic rock
- Magnetic lineament

Scale 1 : 1 000 000
0 10 20 30 40 50 Kilometres

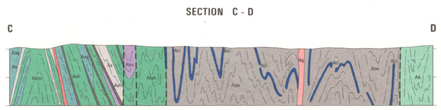
DIAGRAMMATIC SECTIONS

NATURAL SCALE

SECTION A - B

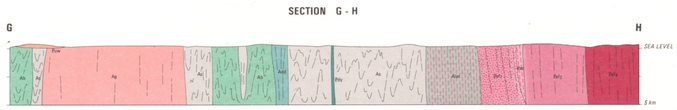


SECTION C - D



SECTION E - F

SECTION G - H



REFERENCE

CAINOZOIC

QUATERNARY

- Qa — Alluvium
- Czts — Evaporite, interbedded with clay and sand
- Czsd — Quartz sand and gypsum dune deposits
- Czc — Colluvium
- Czf — Semiconsolidated ferruginous quartz sandstone
- Czl — Laterite

TERTIARY

- Tes — **Eundynie Group**: sandstone, siltstone, and mudstone; including spongolitic, calcareous and bituminous varieties

? PERMIAN

- Ps — **? PATERSON FORMATION** : quartz sandstone and siltstone

PALAEOZOIC

- Pww — **WOODLINE BEDS** : arenaceous and argillaceous metasedimentary rocks, including silicified evaporite

PROTEROZOIC

- Pa — Albany–Fraser Orogen : granulite and amphibolite facies rocks, including metagabbro, metasedimentary rock, metagranitoid rock and gneiss
- Pas — Gneiss and metasedimentary rock
- Paf1 — Garnet amphibolite (strongly magnetic)
- Paf2 — Pyroxene granulite (weakly magnetic)
- Paf3 — Pyroxene granulite (moderately magnetic)
- Paf4 — Metagabbro
- Pag — Gneissic augen granitoid rock

FRASER COMPLEX

- Pdy — Mafic and ultramafic dykes : Pdyb – Binneringie Dyke; Pdyc – Celebration Dyke; Pdyj – Jimberlana Dyke; Pdyr – Randalls Dyke
- q — Quartz veins
- Asm — Quartz muscovite schist (? deformed Ag)
- Ag, Agf, Ags, Agp as below — Dykes : Ag, Agf, Ags, Agp as below

ARCHAEAN

- Ag — Granitoid rock
- Agy — **ERAYINIA GRANITOID COMPLEX** : foliated hornblende biotite monzogranite and porphyritic granodiorite with abundant small mafic xenoliths
- Agn — **PIONEER GRANITOID COMPLEX** : foliated porphyritic monzogranite and gneiss with pegmatite and quartz veins
- Agrh — **RED HILL GRANITOID COMPLEX** : syenogranite, monzogranite porphyry and granodiorite porphyry
- Agw — **WIDGIEMOOLTHA MONZOGRANITE** : foliated porphyritic monzogranite
- Agf — Monzogranite porphyry and granodiorite porphyry
- Ags — Porphyritic syenite
- Agp — Pegmatite
- Agh — Granitoid rock hornfelsed by the Binneringie Dyke
- An — Quartz-feldspathic gneiss
- Ang — **FIFTY MILE TANK GNEISS** : quartz-feldspathic gneiss and augen gneiss
- As — Pelitic and psammitic metasedimentary rocks with metaconglomerate, chert and metamorphosed felsic volcaniclastic rocks
- Asm — **MERDIGIEL BEDS** : biotite-bearing metasedimentary rocks derived from pebbly sandstone, sandstone and siltstone
- Asf — Metamorphosed felsic volcaniclastic sedimentary rock and minor volcanic rocks
- Ash — Metamorphosed shale and slate
- Ach — Cherti
- Asw — **MOUNT BELCHES BEDS** : biotite-bearing metasedimentary rock derived from turbidite
- Asb — Mafic schist interlayed with quartz-rich schist
- Asi — Metamorphosed banded iron-formation
- Af — Metamorphosed felsic volcanic rock
- Ah — Felsic schist
- Aa — Metamorphosed mafic and ultramafic intrusive rocks
- Aad — Metadolerite
- Aag — Metagabbro
- Aau — Metaperidotite and metapyroxenite
- Ab — Mafic schist, metabasalt, metadolerite and amphibolite
- Abm — Metamorphosed high-Mg basalt, with some pillows and variolitic textures
- Abt — **KAMBALDA FOOTWALL BASALT** : metamorphosed pillow basalt
- Aku — Metakomatiite
- Au — Ultramafic schist

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