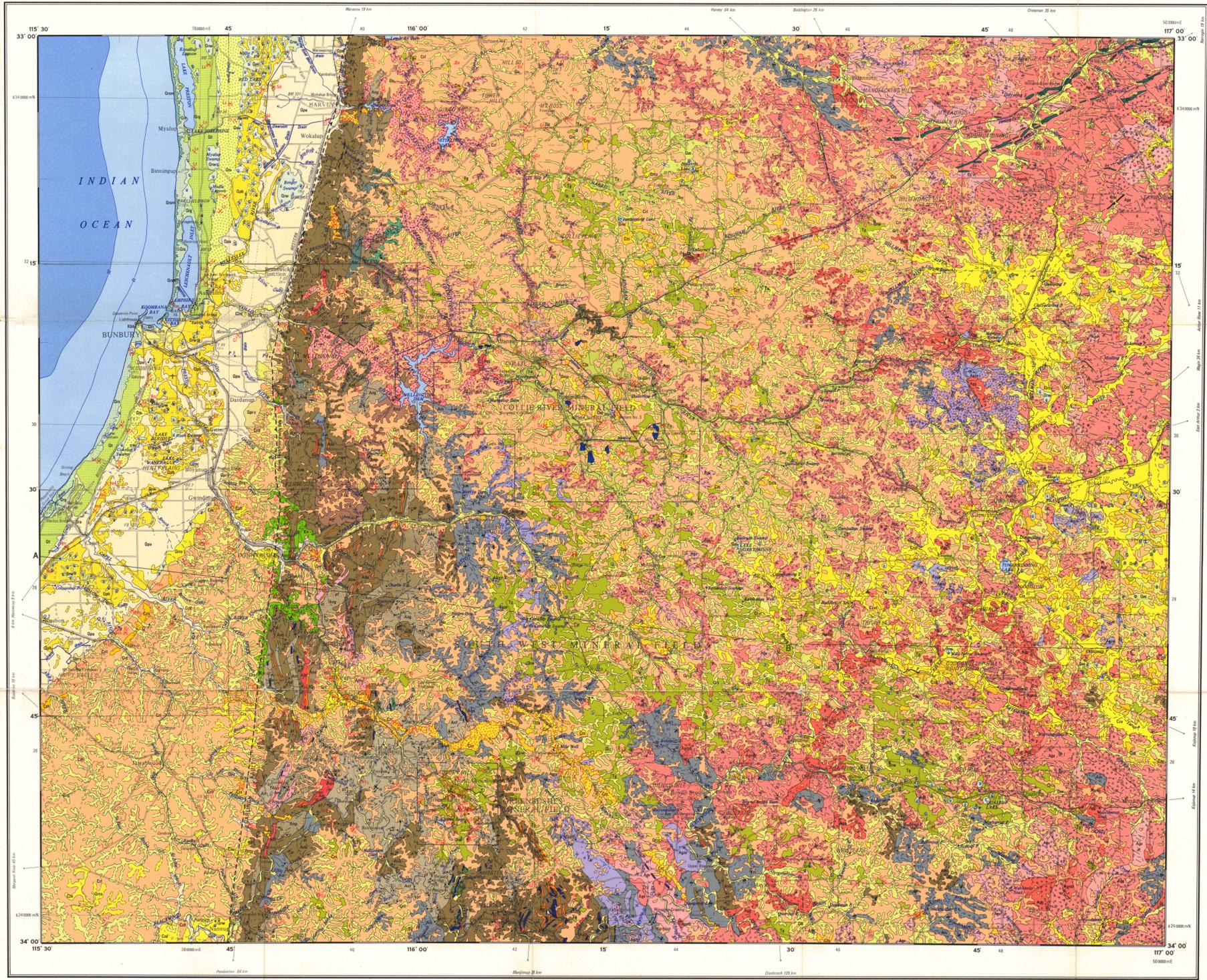


- SYMBOLS**
- Geological boundary
    - Accurate
    - Approximate
  - Fault
    - Accurate
    - Approximate
    - Normal and concealed
  - Plane of minor fold
  - Bedding
    - Inclined
  - Geantic lamination
    - Inclined
    - Vertical
  - Dip indeterminate
  - Mineral lamination in plutonic rocks
    - Inclined
    - Vertical
    - Dip indeterminate
  - Schistosity
    - Inclined
    - Vertical
    - Dip indeterminate
  - Direction and plunge of lineation
    - Shear lamination in plutonic rocks
    - Dip indeterminate
    - Mylonitized shear zone
  - Sheared plutonic rocks
  - Attitude of fault surface
  - As phos. fragment
  - Type section locality
  - Fossil localities
  - Geochronological site

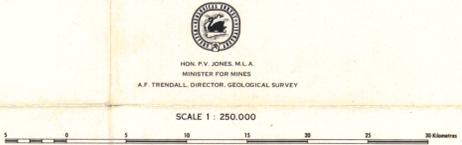
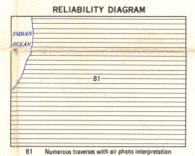
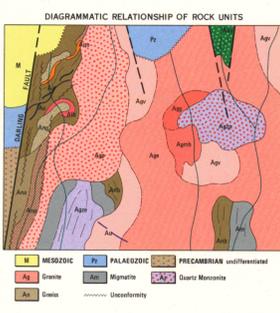
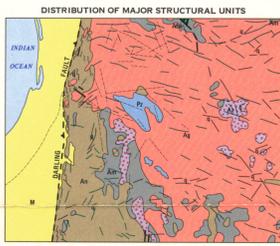
- Mineral field boundary
- Highway with national route marker
- Formed road
- Track
- Railway 2'6"
- Station or siding
- Power line
- Township gazetted
- Population 10 000 and over
- Under 1 000
- Locality
- Eye
- Airfield
- Landing ground
- Notational control - major minor
- Bench mark, height accurate
- Transmitting station
- Sand dunes

- Watercourse
- Bore
- Potter line bore shown as
- Quintanilla
- Laboratory production
- Pit
- Spring
- Pipeline
- Barometric contour line, depth in metres
- Permanent water

- Mine
- Mine, abandoned
- Quarry
- Quarry, abandoned
- Abandoned workings
- Abandoned workings, abandoned
- Prospect
- Mineral occurrence
- Barite
- Building stone
- Clay
- Coal
- Crushed rock aggregate
- Fieldspar
- Gold
- Heavy mineral sands
- Ironstone
- Kaolin
- Limestone
- Mica
- Molybdenum
- Plastic laterite gravel
- Plast mineral (gravel)
- Sand, various purposes
- Sand, glass
- Talc
- Vanadium
- Zirconium



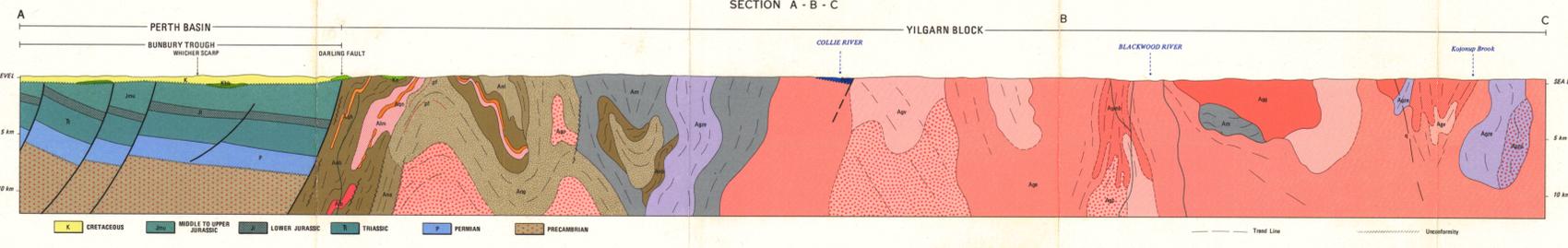
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TRANSVERSE MERCATOR PROJECTION  
ZONE 1 AUSTRALIAN SERIES  
Grid represents the 1983 metre approximated Australian Map Grid

INDEX TO ADJOINING SHEETS

|                     |                      |                       |
|---------------------|----------------------|-----------------------|
| INDIAN OCEAN        | PINJARRA SI 50 - 2   | CORRIGIN SI 50 - 3    |
| BUSSELTON SI 50 - 8 | COLLIE SI 50 - 6     | DUMBLETON SI 50 - 7   |
| AUGUSTA SI 50 - 9   | PENBERTON SI 50 - 10 | MT. BARKER SI 50 - 11 |



- REFERENCE**
- Recent
    - Qw Quaternary and lacustrine deposits - peat, peaty sand and clay
    - Qs Alluvium - clay and sand loam
    - Qd Colluvium, lagged and lacustrine deposits - clay, silt, marl with shell
    - Qc SAFETY SAND - color and beach line sand, slightly indurated calcareous quartz sand (mobile dunes)
  - PLEISTOCENE-RECENT
    - Qc Colluvium, including valley fill deposits, variably laminated and podsolized
    - Qd Colluvium - sand, often associated with older drainage courses
    - Qs Alluvium and minor colluvium developed on base of the Darling Range
    - Qw Sand - variably marlized, associated with older stream channels
  - QUATERNARY
    - Qc TAMALA LIMESTONE - color calcarenite, variably indurated and leached and beached to quartz sand
    - Qd predominantly quartz sand
    - Qs BASEDENIAN SAND - quartz sand (fixed dunes)
    - Qw BULLFORD FORMATION - alluvium (silt, loam, sand, gravel) variably laminated and podsolized
    - Qc YOGAN FORMATION - leached or ferruginized beach sand, conglomerates and dunes forming a distinct shelf
    - Qd partially reworked beach sand, with local heavy mineral concentrations, at base of the shelf
  - PHANEROZOIC
    - TERTIARY
      - Tc Lorraine - chiefly marls, but includes overlying pleistocene gravel and minor laminated sand
      - Td lower lorraine surface formed below breakaway, best developed on Blackwood Plateau
      - Ts Sand dune/terrace facies - yellow, white or grey
      - Cd Beach sand and dune deposits of the Healy Valley shoreline
      - Cc Conglomerates - cobble and boulders in sand or clay matrix, variably laminated
      - Cs Broad tracts of sandy alluvium often traversed by dunes, variably reworked by present drainage terraces above alluvium, locally laminated
    - CRETACEOUS
      - Ts BAKIRA FORMATION - alluvial deposits of the upper Collie River system, variably dissected and reworked
      - Td Sandy alluvium forming terraces to Bakira Formation, locally laminated
      - Tc Old (fluvial) deposits, strongly laminated in part (includes GREENBUSHES FORMATION). Conglomerate, sand and clay
      - Td KIDJUP SANDSTONE - white, silica-cemented quartz sandstone, grit and conglomerates with abundant fossil leaf impressions
    - MESOZOIC
      - Ms MAXICARBONIFEROUS - ferruginous, lenticular sandstone overlain by cream siltstone and mudstone
      - Ms DONNYBROOK SANDSTONE - lenticular sandstone and grit, with minor ripple marked dunes and conglomerates
      - Ms BUNBURY BASALT - meliolic basalt, commonly porphyritic and vesicular
    - PERMIAN
      - Pp COLLIE COAL MEASURES - coal seams in weakly indurated sand and grit, with minor clay and conglomerates. Only crops out in open cut quarries
  - PRECAMBRIAN UNDETERMINED
    - Uc Meliic dykes - fine to coarse grained dioritic and gabbroic dykes, variably altered and metamorphosed
    - Ud Xenolithic mafic dykes - dioritic dykes with abundant quartzofeldspathic xenoliths, partially assimilated
    - Ug Granite dykes and veins
    - Ue Pegmatite and apfite veins - late intrusions in granitic complexes
    - Uf Pegmatite dykes and veins - foliated and deformed intrusions in the process of the Bridgwater - Donnybrook area
    - Ug Quartz dykes and veins
  - ARCHAEOZOIC
    - Arp Even grained granitic rocks - fine to coarse grained granodiorite, adamellite and granite
    - Arq Porphyritic granite - medium to coarse grained granite with microcline megacrysts
    - Arf Fine to medium grained adamellite and granite with abundant microcline megacrysts
    - Arg Leucocratic adamellite, fine to coarse grained with abundant perthite
    - Arh Most granitic rocks, chiefly intermingled even grained and porphyritic granite
    - Arb Banded granitic rocks, chiefly even grained and porphyritic types intermingled on a centimetre to metre scale
    - Arp Dioritic rocks, range from megacrystic to diorite. Small intrusions only
    - Arq Porphyritic hornblende-bearing quartz monzonite. Scattered amphibole xenoliths
    - Arg Even grained hornblende-bearing quartz monzonite. Local range to quartz diorite and gneiss. Often recrystallized and lineated
    - Arh Ultramafic dykes and sills - peridotite and pyroxenite, often foliated and variably altered to greenschist facies metamorphic assemblages
    - Arp Migmatite - banded and relictitic, often strongly contrasted
    - Arh MARBADING FORMATION - mafic volcanic rocks, metabasalt with minor bands of metasediment. Saddleback Group
    - Arp Porphyritic granite gneiss, coarse grained with abundant tabular megacrysts of microcline
    - Arq Granitic gneiss, coarse grained with microcline megacrysts, strong catenoidal foliation
    - Arg Quartz feldspar biotite (granite) gneiss, generally well banded. Includes biotite schists along Darling Scarp
    - Arh Quartz feldspar biotite (hornblende-gneiss) gneiss, hornblende, often with elongate feldspar megacrysts
    - Arp Quartz feldspar biotite (hornblende-gneiss) gneiss, generally banded with only weak foliation
    - Arh Quartz feldspar hornblende biotite gneiss
    - Arp Calc-silicate gneiss, diopside-epidote-microcline (quartz) assemblages
    - Arh Quartz biotite schist, often ferruginous
    - Arh Quartz monzonite-biotite-phyllosilicate schist
    - Arp Quartz mica-gneiss schist
    - Arh Schistose-bearing schistose metasediment
    - Arh Amphibolite, hornblende-pyroxene rocks, also include minor hornblende
    - Arp Amphibolite schist, often ferruginous
    - Arh Hornblende-bearing quartzite - microcrystalline, some chlorite-gneiss
    - Arp Epidote-bearing quartzite - metamorphosed calcareous sandstone
    - Arp Quartz-magnetite-gneiss assemblages. Banded iron-formation
    - Arh Granulite facies assemblages - interlayered mafic and felsic units containing ortho- and clinopyroxene
    - Arh Diapirite, indicating diapirism largely obscured by residual and colluvial deposits

