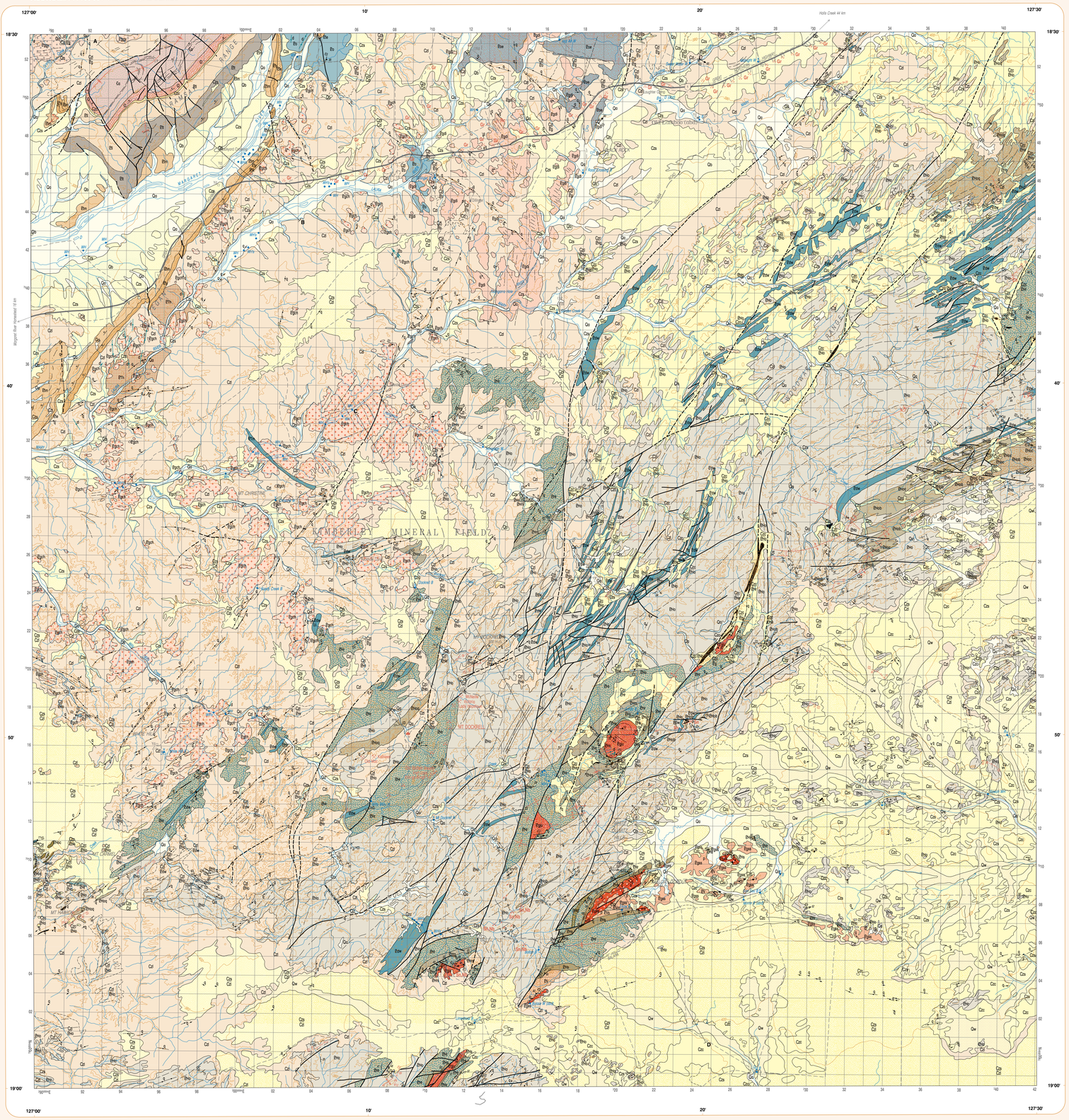
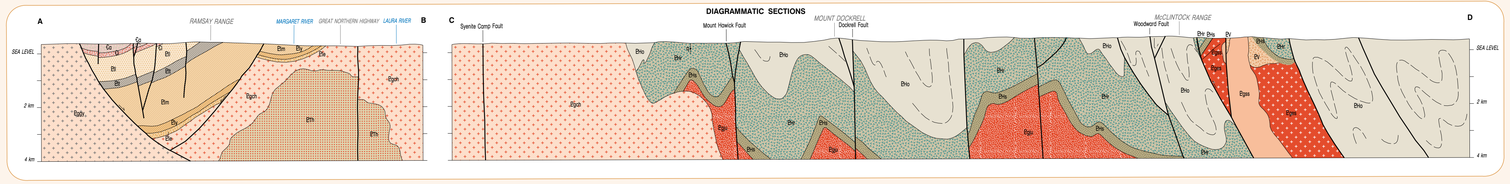
DOCKRELL

GEOLOGICAL SURVEY OF WESTERN AUSTRALIA



DIAGRAMMATIC SECTIONS



CAINOZOIC

QUATERNARY

- **Qo** — Qa: Alluvium — unconsolidated silt, sand, and gravel; Qb: Brick soil — clay and silt; Qw: Alluvium and colluvium — sheet wash deposits, red-brown sandy and clayey soil
- **Czs / Czc / Czl** — Czs: Colluvium and alluvium — partly consolidated silt, sand, and gravel; adjacent to drainage; sand plain on laterite surface; Czc: Colluvium — partly consolidated scree and valley-fill deposits; Czl: Laterite — massive and pisolitic ferruginous duricrust; forms plateaus overlying weathered rock (Eg—granitoid); steep breakaways commonly form at the margins
- Q — Quartz veins, of various ages; youngest generation postdates Cambrian units

PALAEOZOIC

CAMBRIAN

- **Ca** — **ANTRIM PLATEAU VOLCANICS:** dark grey vesicular and amygdaloidal basalt; generally deeply weathered
- **Cl** — **LALLY CONGLOMERATE:** medium- to coarse-grained quartz sandstone and cobble conglomerate

PROTEROZOIC

Lennis Downs Group

c. 670 Ma

- **Ett** — **LUBBOCK FORMATION:** grey, green, or purple siltstone and shale; interbedded with fine- to medium-grained quartz wacke
- **Ett** — **TEAN FORMATION:** feldspathic sandstone, quartz wacke, quartz sandstone, pebble conglomerate, siltstone, and shale; minor dolomite
- **Ettm** — **McALLY SHALE:** brown, grey, and green shale; minor siltstone and fine- to very fine-grained sandstone
- **Ety** — **YURABI FORMATION:** floggy to blocky quartz sandstone and feldspathic sandstone; grey and purple siltstone, shale, dolomitic siltstone, and sandy dolomite
- **Ete** — **ESAN FORMATION:** tillite, arkose, dolomite, limestone, sandstone, siltstone, and shale
- d — Dolerite dyke

c. 1740 Ma

- p, pp — Veins and dykes: p—pegmatite; pp—rhyolite porphyry

c. 1790 Ma

- **Eygss** — **SAN SOU MONZOGRANITE:** medium- to fine-grained biotite monzogranite; scattered fine-grained mafic inclusions

c. 1820 Ma

- **Eygch** — **MOUNT CHRISTINE GRANITOID:** coarsely porphyritic to medium-grained biotite monzogranite; hornblende-biotite granodiorite and tonalite; locally foliated
- **Eygdl** — **DILLINGER MONZOGRANITE:** medium- to fine-grained, leucocratic biotite monzogranite; abundant mafic inclusions adjacent to contacts with gabbro
- **Eygpy** — **GRIMPY MONZOGRANITE:** weakly porphyritic, fine-grained biotite monzogranite
- **Eygld** — **LOADSTONE MONZOGRANITE:** weakly porphyritic biotite monzogranite and syenogranite; minor monzogranodiorite

c. 1840 Ma

- **Eb** — Eb: Undivided porphyritic to even-grained, medium- to fine-grained gabbro, tonalite, pyroxenite, and hornblendite; extensively veined by granitoid rocks locally; Ebw: **EMULL GABBRO:** medium- to fine-grained gabbro and tonalite extensively veined by DILLINGER MONZOGRANITE, aplite, quartz-feldspar porphyry, and pegmatite
- **Ek** — **KOONGIE PARK FORMATION:** metamorphosed laminated fine sandstone; felsic volcaniclastic rocks, and minor carbonate

Tickalara Metamorphics

- **ETh / ETm** — ETh: Quartz-muscovite-biotite-cordierite hornfels; ETm: Migmatitic quartz-plagioclase-muscovite-biotite-(sillimanite-andalusite-cordierite)-(chlorite) pelite and amphibolite
- **Ebw** — **WOODWARD DOLERITE:** fine- to medium-grained metadolerite

Hells Creek Group

c. 1855 Ma

- **Bhkn** — Quartz-K-feldspar-biotite-cordierite-sillimanite pelitic hornfels; locally retrogressed to quartz-muscovite-biotite-chlorite-(sillimanite) pelitic schist
- **Bhko** — **OLYMPIO FORMATION:** low- to medium-grade metamorphosed, thin- to medium-bedded quartz-muscovite (-biotite-chlorite-andalusite-garnet) pelitic rocks and turbiditic quartz wacke, greywacke, and arkosic psammitic rocks
- **Bhkoq** — Metamorphosed thick-bedded, turbiditic quartzitic sandstone, and minor pelite
- **Bhkob** — **Butchers Gully Member:** metamorphosed and altered alkaline volcanic and volcaniclastic rock, chloritic with carbonate-rich matrix, ferruginous chert
- **Bhkoc** — Metamorphosed chert, locally ferruginous
- **Bhc** — **BISCAY FORMATION:** metamorphosed basaltic volcanic and volcaniclastic rock; minor dolerite sills, and interbedded pelite; carbonate and chert lenses
- **Bhcs** — Metamorphosed interbedded sandstone and argillite
- **Bhcl** — Metamorphosed basaltic volcanic and volcaniclastic rock with carbonate-rich matrix
- **Bhs** — **SAUNDERS CREEK FORMATION:** metamorphosed quartz sandstone, feldspathic sandstone, and quartz pebble conglomerate

c. 1910 Ma

- **Egju / Egss** — Egju: **JUNDA MICROGRANITE:** partly recrystallized, fine-grained leucocratic monzogranite; Egss: **ESAIR MONZOGRANITE:** partly recrystallized, garnet-muscovite granite
- **Dhv** — **DING DONG DOWNS VOLCANICS:** amygdaloidal metabasalt and amphibolite, minor pelite and metagabbro
- **Dhs** — Pelite and cordierite-bearing quartzo-feldspathic rock
- **Dhm** — Metagabbro; minor meta-anorthosite

LAMBOO COMPLEX

Geological boundary
- accurate
- inferred

Fault
- accurate
- concealed

Shear zone

Fold, showing direction of plunge
- anticline
- syncline
- overturned anticline
- overturned syncline
- synformal anticline
- antiformal syncline
- overturned synformal syncline
- minor anticline
- minor syncline

Small-scale folds showing strike and dip of axial surface, direction of plunge, and nature of vergence (Z, S, or M profile)
- D_2
- D_3

Bedding, showing strike and dip
- inclined
- vertical
- horizontal
- overturned

Strike and dip estimated from aerial photography
- 0–15°
- 15–45°
- 45–90°
- vertical
- overturned 15–45°
- overturned 45–90°
- trend of bedding (also visible through surficial deposits)

Igneous layering
- inclined

Way-up indicator
- top of bed

Cleavage, slaty or spaced, showing strike and dip
- D_2: inclined; vertical
- D_3: inclined; vertical

Cleavage, crenulation, showing strike and dip
- D_2: inclined
- D_3: inclined; vertical
- D_4: inclined; vertical
- D_5: inclined; vertical

Foliation, showing strike and dip
- D_1: inclined
- D_2: inclined; vertical
- D_4: inclined
- D_5: inclined; vertical

Lineation, showing direction of plunge
- stretching lineation
- axis of crenulation
- bedding—cleavage intersection

Joints, showing strike and dip
- inclined

Air photo lineament

Highway with national route marker — 1

Formed road

Track

Fence, generally with track

Homestead — Old Lamboo

Building

Yard — cYd

Locality — Syenite Camp

Microwave repeater station

Horizontal control; major, minor

Contour line, 20 metre interval — 480

Watercourse, ephemeral

Bore — B

Well — W

Windpump

Dam — D D

Waterhole — WH

Sook — Sk

Abandoned — (old)

Mining centre — MT DOCKRELL

Mine (gold unless otherwise indicated) — Victoria

Alluvial working

Quarry

Battery

Mineral occurrence
- Chalcedony — Ch
- Copper — Cu
- Niobium (columbite) — Nb
- Tin — Sn

Industrial minerals
- Rock; crushed aggregate — Rc
- Gravel — Gr

TECTONIC SKETCH MAP

Houghton Range
Bhkn
Bhko
Bhc
Ebw
Ek
Ett
Ey
Ebw
Ebw
Ebw